Drug and Cosmetic Industry

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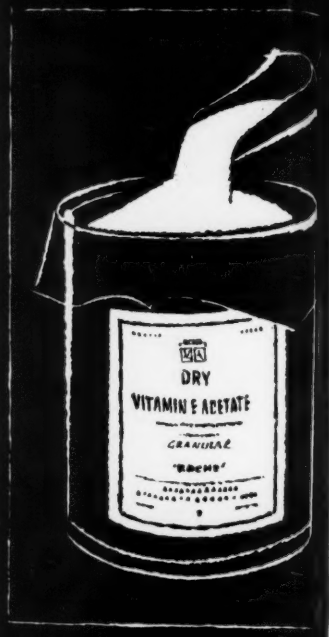

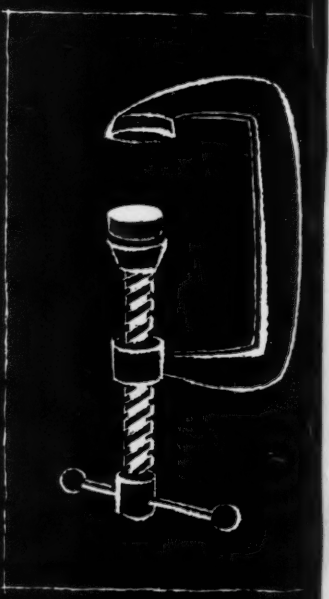

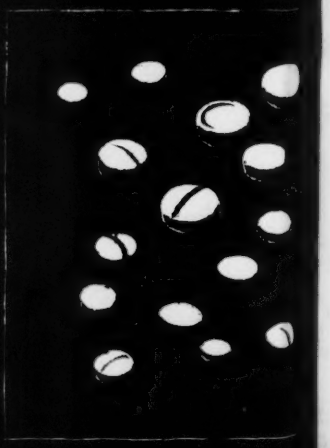

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Keeping Posted

Special Aerosol

In a letter to the "New York Post," David Simon, a New York taxicab driver, suggests a device to deter holdup men who have been preying on cab drivers. He advocates an aerosol containing a malodorant substance and a phosphorescent that can be triggered by the driver and is directed into the back of the cab. Not only would the attempted holdup be averted, but then the assailant could be readily identified by police. Not bad, but what about accidental dousing of the innocuous passenger?

National Committee Against Counterfeit Drugs

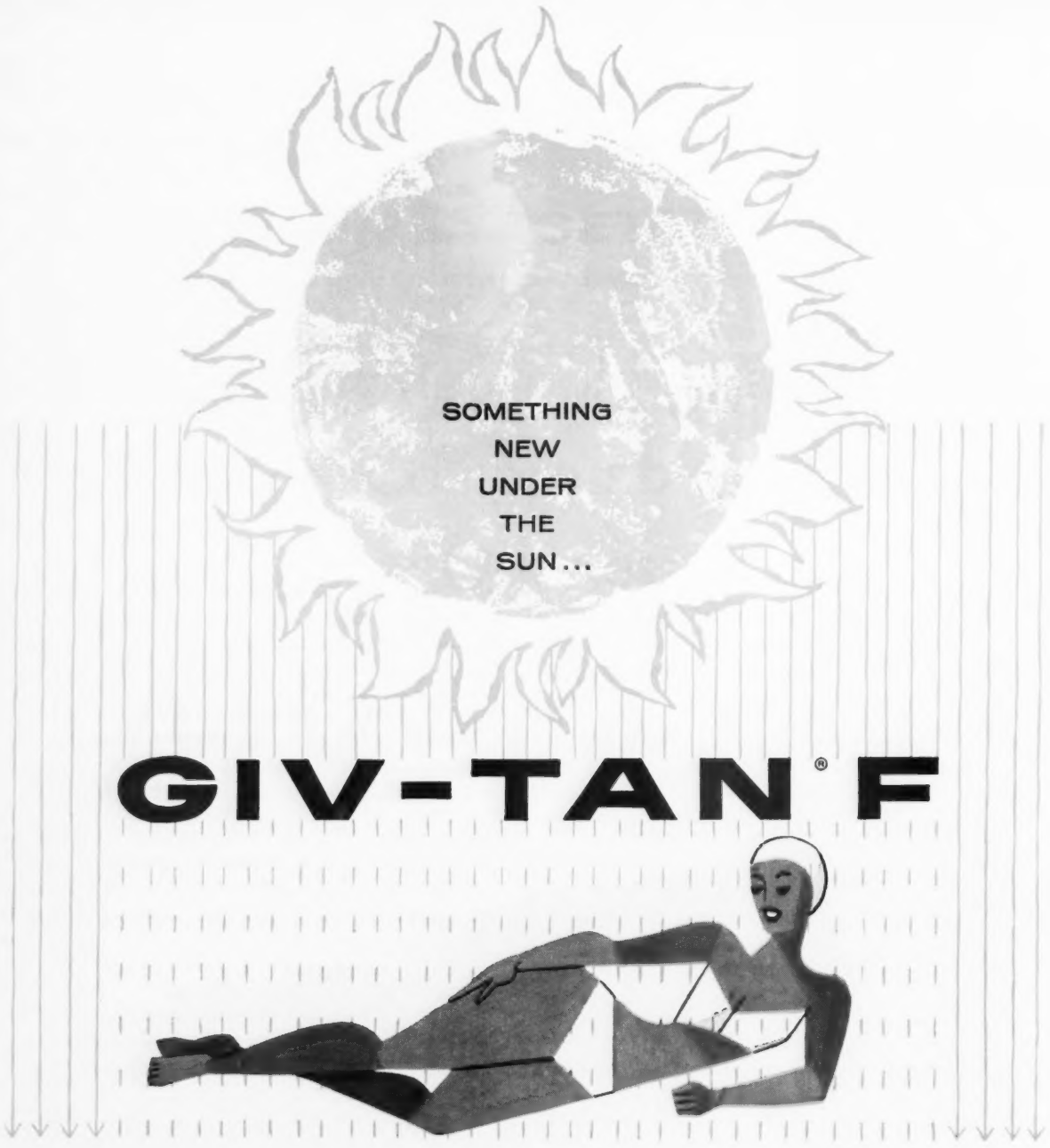
A program for the issuance ofa seal of ethical practice by the "National Committee Against Counterfeit Drugs" has not and will not receive endorsement from the American Pharmaceutical Association, according to a statement by the Association, and the Executive Committee of the District of Columbia Pharmaceutical Association voted not to sponsor or endorse the program.

In a statement of aims, the National Committee Against Counterfeit Drugs initiated the drug seal program to combat drug counterfeiting and substitution, to reassure the public, to enhance the good name of ethical pharmacists, and to promote and publicize the drug industry. Members of the Committee would be Jack Anderson as chairman, Warren Woods, attorney, and a third member to be named by the District of Columbia Pharmaceutical Association. Pharmacists participating in the seal program would be committed never to deal knowingly in counterfeit drugs nor make substitutions without the physician's approval; violation of the pledge would result in forfeiture of $10,000, payable to a charity designated by the D. C. Pharmaceutical Association. Tentative arrangements for policing the program have been made with drug manufacturers to supply the committee with shoppers, investigators, and testing facilities. Serious evidence of sales of counterfeit drugs would be turned over to federal or local authorities. Participating druggists would pay a $10 registration fee and would receive window stickers and a cardboard seal. Members of the Committee would serve without salary and the registration fee would be used to defray expenses of the Committee, excess funds being used to advertise the seal program.

The seal program is to be launched with the backing of "Parade" magazine, which will provide national publicity from time to time, and an article has been scheduled to appear in that supplement on January 15 inviting pharmacists to join the program. The committee organization is apparently a follow-up on an article on counterfeit drugs by Jack Anderson, "Parade" Washington correspondent, and seemed at first to have the approval of the D. C. Pharmaceutical Association. Now the local group has taken a second look at the Committee and changed its mind.

Among the reasons for the American Pharmaceutical Association's decision not to endorse the program are the following: The pharmacy board license issued to a pharmacist is a certification of professional competence and integrity; the APhA code of ethics states that the pharmacist will work only with drugs of good quality, will safeguard public interest in dispensing, and will uphold laws and regulations governing dispensing and distribution; the pharmacist is expected under the code to expose corrupt or dishonest conduct in the profession.

The proposed seal, says the Association, might be construed as an unethical method of asserting professional superiority and the agreement and pledge of the Committee not to engage in counterfeiting adds nothing, since the individual is already charged



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to obey the law. Finally, the Association believes that those interested in promoting public health should work for adequate pharmacy laws and the enactment of laws to give power, personnel and permanence to pharmacy boards would lead to continuous supervision and control.

Drug and Cosmetic Legislation Proposed

The new 87th Congress will see the introduction of additional legislation affecting the drug and cosmetic industries. Senator Kefauver's bill, developed from his committee's hearings, will require Federal licensing of manufacturers of drugs; will require determination of efficacy as well as toxicity of drugs; will require physicians to prescribe by generic instead of brand name; will make it more difficult to patent drug variations; will try to control the claims made by detail men to physicians.

The Food and Drug Administration also has its legislative plans, according to John L. Harvey, Deputy Commissioner, speaking at the annual conference of the Food and Drug Administration-Food Law Institute. These are similar to those introduced in the last Congressional Session, but not acted upon before adjournment. The current plan is for early introduction of the legislative proposals to alert Congress to FDA ideas about food, drug and cosmetic problems.

These ideas include giving the FDA authority to require cosmetic manufacturers to prove that the new cosmetic is safe before marketing; to set up quality control standards in drug manufacture; to require evidence of efficacy as well as safety before approval of new drug applications; to require certification of all batches of all antibiotics; to broaden authority to make factory inspections.

From here, the weather looks overcast and chilly.

Kendall Committee Clears FDA

The three man committee headed by Charles H. Kendall, investigating the activities of Food & Drug Administration employees, has now given a clean bill of health to the FDA and its commissioner, George P. Larrick. The committee has concluded that the Dr. Henry Welch situation was unique and that there is no reason to believe that any present employee has personal financial interests likely to interfere with his government employment obligations. Moreover, the essential functions of the FDA are being performed and its personnel are dedicated to the purposes of the agency. FDA decisions have not been made against the public interest, nor with personal gain in mind. Secretary of Health, Education, and Welfare Arthur S. Fleming ordered quick implementation of committee recommendations. These include forbidding acceptance by employees of gratuities or expenses from industry; setting up internal inspection of FDA; imposing some control on access of industry representatives to FDA personnel; establishing closer relationships between FDA employees and local and state health authorities; setting up procedures to assure the consideration of FDA scientists' views in decisions by the commissioner; increasing expenditures for distribution of FDA bulleting and attendance by FDA scientists at scientific meetings.

Prescription Pricing

Although prices and costs of drugs have had a thorough going over by that Senator and his subcommittee, a major problem of vital interest to both pharmaceutical manufacturers as well as the consuming public has been most amazingly free from newspaper and Congressional committee attention. This is the matter of how the pharmacist prices the prescription calling for the manufacturer's drug. It is easy to assume that the druggist adds the proper percentage to his cost from the manufacturer or wholesaler to arrive at a reasonable approximation of the manufacturer's suggested price to the consumer. This would be the traditional gross margin concept, in which prescription drugs are considered as general merchandise. However, this results in a low gross return on low priced prescriptions and the druggist may feel justified in increasing the percentage of mark-up so that he can be assured of a profit. The additional mark-up should theoretically not be applied to higher priced prescriptions, and a number of formulas have been proposed to reduce the druggist's windfall. Actually, retail pricing shedules seem to be more strongly directed toward raising low prices than to reducing high ones. Then there is the professional fee concept, which maintains that the professionally trained pharmacist is entitled to a fee for his professional service apart from his profit as a merchandiser. This seems to result, as often as not, in an additional cost to the consumer imposed on top of the customary percentage mark-up. Or the fee can be combined with graduated mark-ups, but usually with a resulting over-all price increase. Dr. William S. Apple, secretary of the American Pharmaceutical Association, at the recent Eastern Regional Meeting of the Pharmaceutical Manufacturers Association, advocated an outright professional fee, without merchandising mark-ups, in pricing prescriptions. His suggestion involves the addition of the professional fee to the actual commodity price. "For example, take an item which costs the pharmacist $25.00 for 100 units, and assume a $3.00 professional fee. A prescription calling for 12 units would be dispensed at a cost of $6.00 to the patient; a prescription calling for 50 units would be dispensed at a cost of $15.00; and a prescription for 100 units at $28.00. Similarly, an item which cost the pharmacist $2.50 for 100 units would be dispensed at $3.30, $4.25 and $5.50, respectively, for 12, 50 and 100 units.

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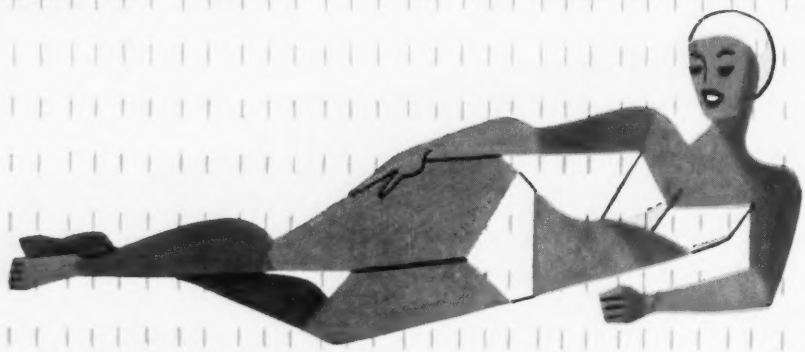

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modity as a prescription. The same exacting standards are expected and required of the pharmacist when he dispenses a prescription which utilizes 12 units of a commodity which cost $0.30 as when he dispenses a prescription which utilizes 12 units of a commodity which cost $3.00 or $30.00. . . . It is just as important to recognize that this method suggests more realistic prices for prescriptions which utilize inexpensive commodities as it is to recognize that it also suggests lower prices for prescriptions which utilize costly commodities."

The problem is a complicated one; Hartleib, Flack, and Abrams (*J. Am. Pharm. Assoc. Pract. Pharm. Ed.* 21: 696, 1960) show that the straight professional fee (at a $1.00 to $2.00 level, not Dr. Apple's suggested $3.00 level) as compared to a variable mark-up of 65 per cent for low-priced items to 40 per cent on expensive ones, gave about the same margin of profit when applied to prescriptions issued by a hospital pharmacy in a given time. Nevertheless, the next paper in that journal, by Dr. R. V. Evanson, seems to favor cost plus professional fee plus a percentage mark-up—"A flat-rate net profit addition to every prescription is undesirable because it does not consider the differential which net profit is normally expected to reflect."

Pharmacy attempts to set up equitable pricing schedules are also complicated by current anti-trust actions by the U. S. Department of Justice in Arizona and California seeking to prove that druggists set prices by a prescribed formula.

Meanwhile, problems of pharmaceutical manufacturers are intensified by confusion among their professional retail outlets.

Pricing British Drugs

The British pharmaceutical industry and the Ministry of Health have agreed on a revised system for pricing drugs bought by the National Health Service. Total drug industry sales are only about 7 per cent of the total National Health Service cost.

The new agreement, extending the old one first imposed in 1957, will run from January 1, 1961 to June 30, 1964. After a three year period of free pricing following the introduction of the drug, the price will be determined by the export price, where exports amount to 25 per cent of total sales; or prices may be determined by comparison with the price of an unbranded equivalent, if it exists; or by imposition of a special formula. The ministry may initiate direct price negotiations on any widely used drugs which are covered by patents and not priced competitively when exported. Excluded from the three year price period will be new products "which manifestly owe nothing to fresh research." Since the three year period is intended to allow the manufacturer to recover research and development costs, exceptions were made for combinations of older drugs. The wholesale price index for pharmaceuticals has risen only 1.01 per cent since 1954, compared with a rise for all manufactured products of 12.94 per cent.

New Jersey Drug Regulation

This being the season, and with the proper atmosphere for such action, Gov. Robert B. Meyner of New Jersey is proposing in his annual message to the joint meeting of the New Jersey Senate and Assembly that the state's food and drug laws be revised. The Governor, emphasizing the need for new laws, notes that present statutes are obsolete and often do not permit the state to correct conditions obviously in need of correction. New Jersey does not now license the manufacturers or wholesalers of drugs, as is the case in New York, Connecticut, and Pennsylvania. Bills to be introduced would provide for licensing and inspection of plants and would set quality standards for products, as well as sanitary standards for personnel.

Perfume Suppliers Aid Rutgers

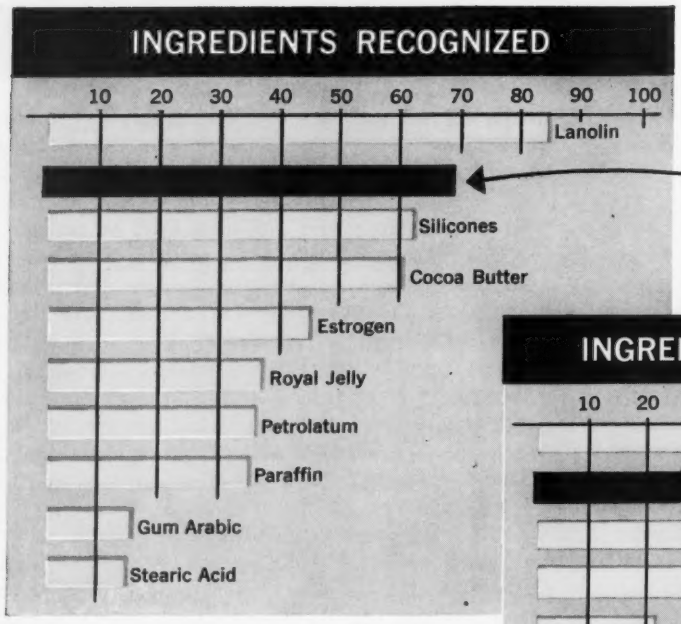
A grant of $5,000 from 12 perfume material suppliers to Rutgers for the continuance of its evening program in "Perfumery and Essential Oils" was announced by the president of the State University, Dr. Mason W. Gross. The grant will permit the Newark Extension Center to offer several new courses of interest to the perfumery industry. Eighty-three persons have so far taken one or more courses in perfume chemistry and compounding at the Center, including 22 who completed the two year program of lecture and laboratory study.

Participating in the grant are Firmenich Incorporated; Fritzsche Brothers, Inc.; Givaudan-Delawanna, Inc.; Hoffmann-LaRoche, Inc.; International Flavors & Fragrances Inc.; George Lueders & Co.; Noville Essential Oil Company; Schimmel & Co.; Shulton, Inc.; Trubek Laboratories; Albert Verley & Co.; Verona Aromatics.

Plastics Production to Increase

The Society of the Plastics Industry, Inc., predicts an increase of from 5 to 10 per cent in the production of plastics materials for 1961. This follows the 5 per cent gain estimated for 1960 and the 30 per cent increase in 1959. Production of all plastic materials for 1961 is expected to be between 6,465 million and 6,773 million pounds.

In 1960, polystyrene passed the billion mark for the first time, joining polyethylene and the vinyls which reached this mark in 1959. Cellulosics in 1960 declined by 8 per cent from the 1959 figure of 158.1 million pounds; phenolics were 5 per cent lower at 624.8 million pounds; polyesters increased by 8 per cent from the 1959 production of 180.7 million pounds; polyethylene production increased 12 per cent from 1,195.0 million pounds; polystyrene rose 5 per cent from 976.9 million pounds; urea and melamine plastic production declined by 5 per cent from 423.6 million pounds; vinyls increased 4 per cent



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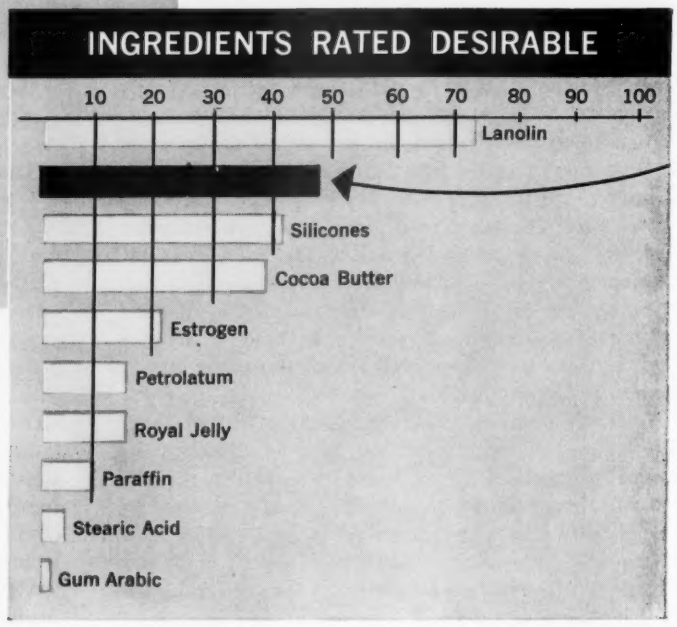

Consumer panel votes YES! for Glycerine

Here again is evidence that "Contains Glycerine" is a phrase that promotes sales on any label. A panel of women having broad geographic and economic distribution recently placed glycerine second only to lanolin as an ingredient they recognized and rated desirable in toilet goods.

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SOOTHING WORDS

that give sales a lift

from 1959 production of 1,166.5 million pounds. Thermoplastic molding, mainly identified with consumer items, increased by 15 per cent while thermosetting molding, mainly industrial items, declined by nearly 10 per cent. Extrusion of sheets, rods, tubes, profile shapes and weatherstripping increased by about 20 per cent.

Glass Containers in '61

A 7 per cent increase in glass container demand in 1961 over 1960 was forecast by Peter W. Hoguet, president of the Econometric Institute at the fall meeting of the Glass Container Manufacturers Institute. Total demand for glass containers, including exports, is expected to reach 170.1 million gross in 1961. In specific categories of glass containers applicable to the drug and cosmetic industries, a 12 per cent gain was predicted for medicinal and health glass containers which are expected to reach a total of 24.3 million gross in 1961 shipments; toiletries and cosmetics demand is expected to reach a total of 14.8 million gross, a gain of 7 per cent. In 1961, among the categories listed, medicinal and health glass containers account for 14.5 per cent of the total, toiletries and cosmetics for 8.8 per cent, compared with medicinal and health use totaling 13.9 per cent in 1960 and toiletries and cosmetics unchanged at 8.8 per cent.

MMM and Warner-Lambert Merger Waits

Officials of Minnesota Mining and Manufacturing Co. and Warner-Lambert Pharmaceutical Company have suspended action in combining the two companies. Elmer H. Bobst, Warner-Lambert chairman, and William L. McKnight, board chairman of 3M, jointly said that they had requested the Department of Justice to investigate the proposed combination before the firms take further action. Officials of both companies have agreed on the terms of the merger and these terms are identical with those announced on August 22. Although the boards of each company have passed on the combination in principle. the matter has not been referred to stockholders of either company.

The FTC in 1960

All-time record numbers of actions during 1960 to halt deception and monopoly were reported by the Federal Trade Commission.

Totals of 560 complaints and 410 orders topped any performance figures in the Commission's 46-year history.

The biggest percentage gain, according to staff figures submitted to FTC Chairman Earl W. Kintner, was in actions to halt antitrust violations; the increased volume of work was achieved with a staff only 8½ per cent larger than in 1959—79 compared to 736.

"I like to believe," he said, "that the Commission's staff has caught fire with enthusiasm for the purposes this agency serves. Certainly bi-weekly paychecks could not have accounted for the imagination and drive that so many on the staff have exhibited during the past year.

"Also significant has been the full use the Commission has made of the legal tools Congress has provided. Instead of unbalanced zeal for either the bludgeon or the wagging finger, we have used either or both to best serve the public purpose. With a combination of education, persuasion, individual actions and large-scale crack-downs on those who would violate the law, we deployed the Commission's force to the basic objective of encouraging honest competition in American business."

In halting deceptive practices, the Commission's most conspicuous action was directed against "payola" in the broadcast of musical records.

Wide attention also was given the Commission's attack on misleading television commercials in which "demonstrations" exaggerated the merits of one product over another. The makers of seven well-known products were named in complaints which alleged, in substance, that camera trickery had been resorted to, or that significant facts regarding the televised portrayal had not been disclosed.

Another coordinated attack was made against those sellers of corneal contact lenses whose advertising claimed that any person could wear the lenses and without discomfort.

Still another group of actions was directed against sellers of reconditioned television tubes whose advertising either implied or claimed the tubes were new.

Other widespread deceptive practices under steady attack during the year were fictitious pricing (in which the advertised "former" or "regular" price is set at a falsely high figure in order to make the selling price seem to be a bargain), false advertising of vending machine profits, debt collection agencies that sought to hide their true purpose, "advance fee" loan procurement and real estate rackets, and mis leading advertising of money-making opportunities for graduates of correspondence schools.

Altogether, the Commission issued 359 complaints in 1960 against deceptive practices, compared with 273 in 1959. This increase includes more than doubling actions to halt false advertising of foods, drugs, cosmetics and therapeutic devices. The increase was from 21 to 43.

In the antitrust field, the report shows a sharp increase in anti-merger activity. Eleven new complaints were issued in 1960, and the Commission ordered six corporations to divest themselves of properties illegally acquired. The products involved in the divestiture orders were: petroleum, salt, aluminum foil, sporting goods, flour mixes, and paper pulp facilities.

An unprecedented effort was made to obtain greater compliance with the Robinson-Patman Act's prohibition against discriminations in price and services favoring big buyers. Here a total of 170 complaints was issued compared to but 80 in 1959 and 54 the

year before. The 1960 orders were 58 compared to 45 in 1959.

In addition to formal case work, the Commission authorized a study to determine how enforcement of the Robinson-Patman Act might be augmented by informal means. A 10-man task force headed by FTC Executive Director Robert M. Parrish undertook the task and recommended the issuance of Guides to businessmen on how to avoid violation of Sections 2(d) and 2(e) of the Act. These sections prohibit illegal promotional allowances and services. In addition, the task force recommended greater use, for investigational purposes, of the Commission's power under Section 6 of the FTC Act to require reports from corporations.

Backing up the greater volume of complaints and orders was an increase in the work of the Commission's compliance staff. A record number of 18 civil penalty suits against alleged violators was filed during the year.

The Commission made considerable progress during the year on its program to secure compliance with the law through voluntary procedures on an industry or community-wide basis.

Guides Against Deceptive Advertising of Guarantees and Guides for Advertising Allowances and Other Merchandising Payments and Services were issued and disseminated widely.

The so-called "tar and nicotine derby" among cigarette manufacturers was terminated on an industry-wide basis through this voluntary method.

In Washington, D. C., city-wide meetings were held with furniture retailers and with appliance retailers to point out deceptive advertising of prices that violated the Federal Trade Commission Act, as was explained in the Guides Against Deceptive Pricing. Each of these meetings resulted in substantial elimination within days of the questioned claims by these retailers.

The year saw greater use being made of industry conferences to acquaint businessmen with their responsibilities under the laws administered by the Commission.

By the end of the year, the Commission was conducting several trade practice proceedings to the end that threats to fair competition be countered and consumer interest be protected. Included in these proceedings are the following industries: fresh fruit and vegetable, household furniture, luggage, residential aluminum siding, poultry hatching and breeding, and the pleasure boat industry.

During the year, the Commission also used the stipulation process to secure industry-wide compliance with the law.

In September, a meeting was held in Cincinnati in cooperation with civic groups interested in advertising, at which representatives of the Commission explained requirements of the law as applicable to advertisers in that city. Similar meetings are scheduled for several cities during the early months of 1961.

In the field of economics, the highlight of 1960 was the issuance of a report on the first phase of the Commission's inquiry into food marketing. This dealt with concentration and integration in retailing. At the same time work commenced on the study's second phase dealing with frozen and canned foods at the producer level. It is expected that this phase will be completed early in 1961.

All together, the Commission has combined more vigorous enforcement of the law with encouragement of greater voluntary compliance and self-regulation by industry groups, with beneficial results.

Peerless Tube Sells Stock

Peerless Tube Company, through Winslow, Cohu & Stetson, is offering for public sale 150,000 shares of common stock. The total number of shares outstanding will then be 450,000, of the 1,500,000 authorized. The company was incorporated in 1916 under the laws of New Jersey as successor to the business begun in 1904. In 1929, control of the company was acquired by the group that comprises the present management.

Peerless is primarily engaged in the manufacture and sale of collapsible tubes and aerosol containers. The manufacture of metal tubes accounts for approximately 85 per cent of the company's sales, aluminum aerosol containers account for 12 per cent, and the remaining 3 per cent come from sales of polyethylene caps to competitors and customers. Principle customers are in the drug, cosmetic, toiletry, chemical, and pharmaceutical fields, with 50 per cent of products sold to the pharmaceutical industry, 25 per cent in cosmetics, and 25 per cent to dentifrice and other industries. One customer purchases about 20 per cent of the company's output, an additional 50 per cent is sold to seven to nine customers and the balance to a large number of small accounts.

Sales in the first three quarters of 1960 were $4,050,514, compared with $5,101,936 for the whole of 1959 and $3,997,563 in 1958. Net income after taxes was $98,847 in the first nine months of 1960, compared with $128,449 for the whole of 1959 and $85,670 in 1959.

The plant and general offices of the company are in air conditioned multi-storied concrete and brick buildings containing approximately 85,000 square feet of space and equipped for the modern production of metal tubes and aerosol containers. Approximately 380 employees are engaged in the operations.

Officers of Peerless Tube Company are the president, Frederic Remington; executive vice-president, Theodore W. Schmitt; treasurer, Franklin P. Russell; secretary, Nathalie A. Hetzel. On the basis of the shares outstanding, Frederic Remington holds 33.87 per cent, or 152,400 shares, while all officers and directors as a group hold 187,740 shares or 41.72 per cent.

PERFUME AND COSMETIC SELLING The Challenge Of '61

BY FRAZER V. SINCLAIR

As we begin this new year, 1961, there are, I think, excellent reasons for expecting rewarding business in the cosmetic industry. The industry began 1960 amid a clamor for the surging, or the glorious or the magnificent Sixties. We soon saw that even the first year of the Sixties would not quite fit any of the super-charged descriptions of this new decade.

But some basic changes in our social and economic life do seem to be taking place. These changes appear to favor the cosmetic industry and its future. And the industry's record in 1960 seems to strengthen the belief that this industry will continue to be favored.

The cosmetic industry did very well last year. Even a moderate slow-up just before Thanksgiving, or a Christmas below expectations cannot alter the facts of substantial growth in industry sales during the year.

Why did the cosmetic industry do so well during a year when unemployment rose, when the most widely used basic material, steel, barely held production above 50 per cent, when the stock market supposed to have such a strong psychological effect on luxury or non-necessity buying—was jittery?

For one thing, factory pay-rolls and money earned by the American public reached new, high records.

For another; the American people have discovered leisure—new hobbies, new amusements, new outlets —creating a new boom in this country. Industries profiting from this boom, and the cosmetic industry is one, are finding a big, new growing source of income. As leisure activity grows, and it surely will, this break in routine home life, meeting of new people, going to new places, enormously stimulates the desire to compete socially.

Perhaps the biggest factor favoring cosmetic sales is the basic change that took place in 1960 in the way the public spends its dollars.

The Nineteen Fifties were the booming years of new home formations, following the halted period of the war years. These years saw the fantastic growth of suburban home development. In turn, this brought an excessive demand for home furnishing and the needs of suburban life.

During these years the percentage of disposable income set aside by the consumer for cosmetics dropped, for the first time in history, as millions of newlyweds bought homes, furniture, rugs, ice-boxes, autos, and the like.

Dollars spent for cosmetics increased during this period, but the increase did not keep up with increasing income. Wage and salary increases went largely for durable goods.

But now, as the not too happy record of 1960 for home appliances and the tightened belt of the auto industry shows, consumers' wants are stabilizing, and, for the first time in several years, more money is being spent on leisure and social activities.

There is nothing as yet to indicate that total earned income will drop in 1961, since it did not drop in 1960. There is no reason to believe that the new way of life the American people have discovered with such enthusiasm—a new life of vigorous social activity—will not continue. And, in spite of the praiseworthy efforts of the appliance and durable goods industry to get a higher share of the consumer's dollar, we think the new mood of the American public will continue to favor consumer goods, among which cosmetics are assuming increasing importance.

Consequently, with full knowledge of the risks of prophecy, we proclaim a good year for this industry in 1961.

It is with even more assurance that we can look at the industry's trends and consider their influences or directions for the new year.

Cosmetics have a new, accelerated tempo in product development that is something to wonder at, and to be proud of. Not too long ago Wall Street was making very unfavorable comparisons between cosmetics and drugs in regard to research and growth.

Before World War II, very few cosmetic companies employed a chemist. Now we have the crowded meetings of the Society of Cosmetic Chemists and the Scientific Section of the Toilet Goods Association.

New cosmetic products are opening new cosmetic markets. Cosmetic research is joining with chemical, pharmaceutical, or dermatological research, exploring every field for new ideas and new products.

It will be increasingly difficult to market a new product that has minor merit, is an imitation, depends solely on a famous company name or must be maintained by means of an expensive demonstrator. New products with real merit capable of opening new markets will hold the interest of the retail buyer and capture a larger share of his buying dollars. Moreover, retail inventories, influenced by factors beyond the control of this industry, may be tighter next year.

We can expect increasing competition among cosmetic companies in broadening research, in product development for new markets, new functions, new styles. In other words, a lifting of the sights for the entire industry.

Just as in product development, the opportunities for this industry in packaging holds brilliant promise. Many great cosmetic successes have in reality been packaging successes. Customer convenience, dispensing ease, a package which superbly gives personality or individuality to the product—all are tremendous cosmetics sales stimulators. Let's not forget the gimmick, the gadget, and the trick packages, which sometimes please the public and agitate the cash register during their brief life span.

The packaging industry is in the early stages of a titanic battle among the basic materials of packaging.

The multi-sided plastics industry is moving so fast that only specialists can keep up with its opportunities. Glass is deeply involved in research, as are paper, steel, aluminum, and copper, and each opens to the alert packager opportunities for originality and improvement.

It will take time and alert attention next year to compete in packaging. It will be dangerous to neglect the packaging opportunities that will develop.

New markets are among the great new opportunities of this industry. The only partly explored and still very profitable cosmetic market for teen-agers proves this. Consider our enormous population of over 170 million people—over 60 million women of cosmetic age and about the same number of men. And then consider that a great perfume company with an annual sale of two million dollars needs less than three hundred thousand customer transactions to conduct this business.

America has many potential cosmetic markets that are as of now only partly developed—children, teen-agers, those more than 60, leisure, Negro, men—each with its own specific cosmetic requirements.

America also has countless fringe markets capable of fine specialized situations and with ample room for many smaller, profitable enterprises. As just one instance hospital convalescence includes some few million people a year. It is growing in numbers with such plans as group insurance and Blue Cross. A few psychological studies have shown such presents as fragrance, lipstick and rouge, and hair products to be favored over all others. This could be a big specialized market, but no cosmetic company has as yet bothered with it.

Professional men are a highly class-conscious group with special social problems. Has any cosmetic company or manufacturer of a men's line given any thought to the 221,106 doctors as a specialized social group?

New markets offer challenging opportunities to this industry. As sales of cosmetics or perfumes tend to concentrate in fewer hands, specialization in smaller or fringe social groups offers solid opportunities to alert smaller companies.

Cosmetic advertising will no doubt feel the influences of a new political climate. Perhaps the industry has put too much faith in the volume of advertising, and too little in the creative quality and informative value of its advertising. Certainly there has been too much "me too" in the industry's imitative selection of advertising media and too little original, intensive study of media to fit particular companies' markets, sales problems or future hopes.

We have a feeling that cosmetic advertising has reached some kind of a lavish peak—that more dollars spent the same way may not produce a profit.

We think that some companies may start giving more careful thought to the way their advertising dollars are spent, with special attention to company personality and distribution, specific sales problems, specific markets and intended direction.

Cosmetic distribution is far from static.

The food supermarket, which brought nearly 20,000 new high-traffic stores to cosmetic distribution, may have had its honeymoon; in some areas, at least, it may find itself facing some new facts of life. Supermarkets in some areas are overbuilt and in some shopping centers they are caught in a poor spot. Some are overexpanded in floor area and in nonfoods for their trading area. The glamour of their discovery is being tarnished by a failure to reduce

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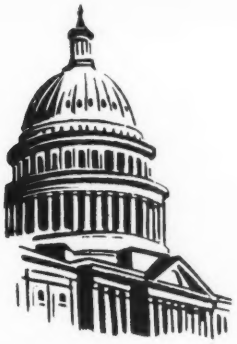

THE PHARMACEUTICAL REVOLUTION*

BY WALLACE WERBLE

The edtior of the F-D-C Reports, Drug Research Reports, Medical Research Digest, and Weekly Pharmacy Reports claims that the election means "more of the same." The only question, he says, is How much more?

For the specialized news areas covered by *"The Pink Sheet* and our other publications, I believe a post-election headline that would convey real meaning to our knowledgeable readerships might go like this:

ELECTION MEANS MORE OF THE SAME;
ONLY QUESTION—HOW MUCH MORE?

This headline, created to convey our view of the outlook for the pharmaceutical field under a new Democratic Administration, might even be used as a generic equivalent, or substitute, for an effort to describe the national picture in general.

I don't suppose I have to spend time and words to make the point that it would be difficult to conjure up very many new problems for the pharmaceutical industry in Washington. I think the industry has just about had it—from both sides of the political fence.

So far as the executive agencies are concerned—particularly the Justice Department and the Federal Trade Commission in the area of antitrust activity—I can't recall a Democratic Administration in which the industry has had as many big cases as it has had during the Eisenhower Administration.

At a recent editorial staff conference, when we discussed and planned our post-election *Pink Sheet*, I asked why a Republican Administration had apparently been tougher on the industry than previous New Deal and Fair Deal Administrations.

To kick off the discussion, I suggested that this could be expected whenever one party has the White House and the other party controls Congress. The boys on Capitol Hill, who are battling for the White House prize, either put pressure on the agencies downtown, or threaten to do so. And industry is caught in between, as both compete to show how tough they can be.

No one challenged this view. It was the day before pay day.

But Dick Taylor, one of our associate editors who used to be a secretary to a Republican congressman on Capitol Hill, suggested there might be another reason, too.

Because most industrial executives are regarded as being 110 per cent in the Republican camp, he suggested, the party has the feeling it can afford to take business for granted—much in the same fashion that the Democratic Party used to take the southern states for granted.

After all, he asked, no matter what a Republican Justice Department's Antiturst Division does, who else but the GOP are industrial executives going to vote for?

New Drug Control Legislation

But enough of this political punditing. What you would like is a complete blueprint, prepared in the days since the election result was established, showing what is going to happen to the pharmaceutical industry and to the people in Washington with whom it must do business.

Some new names and new faces will show up in familiar places during the next few months, and the new broom will start to sweep enthusiastically. But, by and by, the dust will settle, and events will continue to move in the same general direction.

The pace may be speeded up a bit, and the ultimate goals may be extended somewhat. But this always happens whenever any change takes place, and

*Presented at the meeting of the Pharmaceutical Advertising Club, November 10, 1960, in New York City.

would have happened to some degree if a few thousand more votes had been counted on the Nixon side.

I have a feeling that Sen. Kennedy's eyelash margin of victory will tend to slow down the forward motion he promised during his campaign—particularly on new legislation in the area of domestic matters. He will continue to push medical care for the aged as part of the Social Security system. Both parties will close ranks, for a while at least, behind Kennedy's new foreign and defense policies.

Vice President Nixon, had he been elected, also would have made a new legislative proposal on medical care for the aged. He, too, was committed to seeking enactment of a broader plan than the law enacted last August. President Eisenhower restrained the Democrats in Congress—and held back the Nixon plan, too—by his threat of a veto.

The election result won't affect the progress, one way or another, of new legislative proposals on drug controls. A pattern on this had been established. Sooner or later, there will be Capitol Hill activity on bills ranging all the way from the FDA proposals, submitted last July by HEW Secretary Flemming, to the more extreme measures already introduced by Sen. Kefauver—and perhaps a few more which he still plans to introduce.

I do not anticipate enactment of any drastic patent or trademark reforms which might be proposed by Kefauver. He will use his more extreme proposals to maintain steady pressure on the drug field until some new legislation is passed.

If the industry works smartly and effectively on Capitol Hill, I would guess that the ultimate outcome will be a strengthening of FDA controls, designed to fill a few vacuums in the existing regulatory pattern. I doubt that any major firm in the industry will experience a significant upheaval in complying with this type of increased control.

But I know a secret that I think we should all keep from Sen. Kefauver: Any increase in FDA controls will tend toward monopoly in the drug field because Mr. Kefauver's favorite generic-name houses might experience difficulty complying with them.

Career Tradition for FDA Commissionership?

Governor Ribicoff will be the new HEW Secretary.

One of the early appointments the new president must make is a surgeon general for the U. S. Public Health Service. Dr. Leroy Burney's current term expires in January.

The new HEW Secretary is certain to take a close look at FDA and NIH. The Kefauver hearings and the Kendall investigating task force, appointed by Secretary Flemming, have put FDA in the limelight. The next time a new FDA commissioner is appointed, there will be a question on continuing the nonpolitical, career tradition.

Relations between FDA and industry already have taken on an arm's-length character, and you can anticipate that this situation will get tougher before it is finally stabilized. At the moment, FDA is caught between Kefauver, on the one hand, and the Kendall investigation, on the other.

This is making it increasingly difficult for industry to carry on normal relations with FDA. Anybody who has tried to get a New Drug Application through in recent weeks can fill you in on the details.

FDA-ers, being human, will run scared in their relations with industry until the Kendall report is issued, and, beyond that, until the new HEW Secretary has been in office long enough for FDA to learn how to live with him—or her.

The Kendall report may have an impact on FDA-industry relations long after the Demcratic Administration takes over. The hard fact is that the Kendall group appears to be using as its point of departure the too-cozy-with-industry charges made at the Kefauver hearings by Dr. Barbara Moulton, a former FDA Medical Bureau employee. In her testimony, she revealed that she would have liked the job of Associate Director of FDA's Medical Bureau.

Blackmarks in Kendall's Book

In view of the election result, you can expect the Kendall group to point its finger at FDA's career topsiders in any adverse criticisms made in its final report. The Kendall investigators are not likely to provide the Democrats with any handy document or files that could be used as the basis for more Congressional investigating—this time aimed at the outgoing Republican Administration.

You will recall, of course, that Capitol Hill's investigating committees ripped large parts of the Truman Administration apart in the early days of President Eisenhower's tenure. This is standard operating procedure in national politics. One of the advantages of winning an election is that the incoming party gets access to whatever files are left behind by the outgoing party.

The destruction of FDA's traditional and historic relationship with industry could be one of the sadder long-term effects of the Kefauver hearings. It is to be regretted that from the start neither Flemming nor the FDA stood up for the basic position that proper cooperation with industry and encouragement of voluntary compliance provide the most effective way of protecting the public.

FDA has always felt that this is the best way to

(*Continued on page 117*)

Picking Jasmin in Algeria ..... ►
Jasmin flowers are picked daily during August and September, as soon as the sun dispels the dew. Since each flower creates its perfume even after it is picked, the natural flower oil is extracted by leaving the blossoms on frames holding a fat base for 24 hours, a process called enfleurage. At harvest's end, the oil is recovered by cold extraction with volatile solvents.

1960 SCC ANNUAL MEETING

As a fitting climax to one of its most successful years, the Society of Cosmetic Chemists held its annual meeting, reception, and dinner dance on November 29, 1960 at the Hotel Biltmore in New York. At luncheon, H. J. Amsterdam, 1960 president of the Society, presented his annual report. Accomplishments during the year included a membership increase of a total of 813 and participation in the International Federation of Societies of Cosmetic Chemists. As a token of appreciation for their services, past presidents of the Society were presented with engraved gavels.

At the dinner dance, the Society's 1960 Medal Award was presented to Dr. Robert Henry Marriott of Great Britain, Maison G. de Navarre acting as master of ceremonies and eulogist, and the medal being presented by H. J. Amsterdam. A. Herzka, on behalf of the British Society of Cosmetic Chemists, expressed the appreciation of that group for the honor bestowed on one of its members.

The outgoing president then installed Dr. Sophie Plechner as president of the Society for 1961 and introduced Warren Dennis as president-elect, to serve in 1962. Robert A. Kramer and Lester Conrad were re-elected as secretary and treasurer, respectively, and directors include Walter Edman, Dr. John Longfellow, William Mueller, and Dr. Martin Rieger.

The day-long program of papers, arranged by the program committee, E. Allen Newcomb, chairman, included papers by Charles A. Sweeny of the Federal Trade Commission; Dr. Leon Goldman, College of Medicine, University of Cincinnati; Dr. Frederick Reiss, Post-Graduate Medical School, New York University; Dr. John Strauss, School of Medicine, Boston University; Dr. Donald M. Skauen and Dr. Harold M. Beal, School of Pharmacy, University of Connecticut; Dr. J. Y. Oldshue, Mixing Equipment Company; John J. Fischer, Patterson-Kelley Company.

Past presidents (l. to r.): seated, K. Russell, D. Powers, P. Lauffer, H. Amsterdam, E. Klarman, S. Strianse, S. Coneybear; standing, R. Reed, W. Taylor, E. McDonough, G. Kolar, M. deNavarre, and S. D. Gershon.

Pres. H. J. Amsterdam and Dr. Robert H. Marriott, 1960 award winner.

President-elect Dennis, President Plechner, retiring President Amsterdam.

The paper by *Charles A. Sweeny*, "Cosmetic Advertising Under the Federal Trade Commission Act," briefly outlined the provisions of the Federal Trade Commission Act under which the Commission is given broad authority to correct false and misleading advertising. The Commission has developed common sense rules of thumb for the purpose of screening advertising copy and these rules have received direct support from the courts over a period of years.

A series of typical cases wherein the Commission has issued complaints against cosmetic manufacturers was given to indicate the types of situations in which the Commission acts. Also, where advertising claims are supported by scientific test reports, the Commission uses a set of universal criteria to evaluate the laboratory data. These were given and explained, and the importance to the cosmetic chemist of having his research data correctly interpreted was stressed.

Dr. Leon Goldman, "Some Toxicologic and Clinical Studies with Dihydroxyacetone," concluded that until more is known of the mechanism of formation of the dihydroxyacetone color complex, progress in developing more effective coloring will be slow. Toxicologic studies following topical application and oral administration of dihydroxyacetone show it to be non-toxic. Experiments were presented to show the physical characteristics of the color complex with microscopic and color reflectance techniques, as well as the action of various concentrations of the compound in a variety of vehicles in several skin disorders. Work with glyceraldehyde and glyoxal was also mentioned.

Dr. Frederick Reiss, "Systemic Effects of Topically Applied Cosmetics," gave a brief summary of the action of cosmetics applied to the skin, with special reference to hormones. A study made a few years ago showed that sensitization occurred in the following order of frequency: nail lacquer 36 per cent; permanent wave lotion 25.2 per cent, hair dyes 23.8 per cent, lipstick 14.4 per cent. An experiment was designed to test the possible systemic effects of permanent wave solutions and hair dyes when applied topically to guinea pigs. No blood or vascular or

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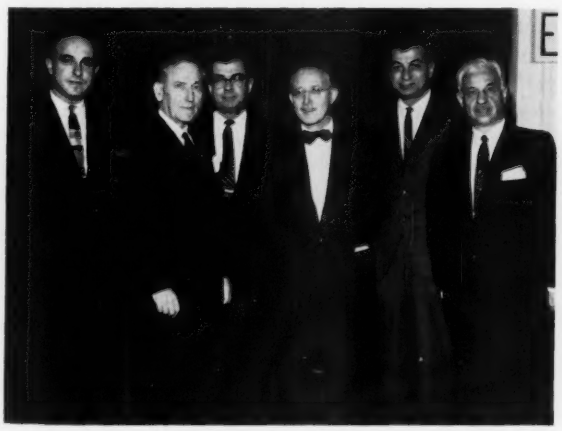


Speakers at the annual SCC meeting (left to right): Dr. John Strauss, Dr. Frederick Reiss, E. Allen Newcomb, program chairman, Dr. Leon Goldman, Charles A. Sweeney, and H. J. Amsterdam, retiring president.

Four more speakers: John J. Fischer, Dr. Donald Skauen, Dr. J. Y. Oldshue, and Dr. Harold M. Beal. The Society of Cosmetic Chemists' annual meeting was held on November 29 at Hotel Biltmore in New York City.

PHARMACEUTICALS FOR PLANTS

BY DAVID DACHS

Pharmaceuticals for agriculture may have a brilliant future, although current problems in their design, costliness and usage have as yet made it unpredictable.

Bigger and better grapes, luscious tomatoes free of grayish blight, hardy tasty pears, trees that can withstand destructive fungus—these are a few of the fine current accomplishments of pharmaceuticals in our gardens. And, down in the Lone Star State, experiments with certain plant-growth stimulants have resulted in "short" Texas cotton, which has greater ability to retain cotton balls.

Such are the positive results of pharmaceuticals for the plant world—for instance, antibiotic sprays and plant-growth products, which have been built up over the past decade into a $2,000,000-a-year market. Even so, the U. S. drug firms active in the field haven't acquired "green thumbs;" plant pharmaceuticals have not turned out to be a spectacular money-making proposition. Still, they form a market of respectable proportions, according to Malcolm Neilsen, sales manager of the Chemical Sales Division of Pfizer.

Who are the best customers for plant pharmaceuticals today, and where are they? Is the field capable of growth? Is anything holding back that growth? A recent DCI survey indicates that growers of table grapes, for instance, are steady and highly pleased buyers of plant-growth agents that have helped them produce demonstrably better, tastier table grapes with greater yields. Equally important purchasers are the pepper and tomato growers of Florida and California, who find that the antibiotic sprays block the profit-killer "bacterial spot."

Producers of pears and walnuts are also good customers for sprays and formulations to neutralize fireblight and walnut blight. In the tobacco country —the Carolinas, Georgia, and Virginia—there is a small but important interest in antibiotic formulations to control certain destructive tobacco molds.

Although the drug firms have made only a slight dent in what is called the ornamental home-growers' market, one firm in particular, Upjohn, has reportedly done well with its product Acti-dione. In spray form it has been used by golf club superintendents to give their courses a velvety emerald luxuriance, and the U. S. Forestry Service has bought quantities for the treatment and eradication of blister rust (Pinus monticola) on white pine. Since 1953, over 4,000,000 trees have been successfully treated in the Pacific Northwest alone.

These purchasers, however, form a highly select group of crop growers and special interest blocs; they do not represent a mass consumer agricultural market. R. Pace, assistant sales manager of the Food Products Division of Merck, concurred with the recent estimate that pharmaceuticals for plants are a small market now. Nevertheless, he insists that the potentialities are tremendous.

Although the potentialities may be tremendous, so are the tacky problems. Frustrating the growth of this try at drug diversification, according to one industry spokesman, are these factors: "The farmers consider the antibiotic powders and growth aids too expensive. Also, many of the products still have an uncertain and erratic effect on crops. And finally, the U. S. Government hasn't yet approved many of these products either as having demonstrable effects on fruits and vegetables, or as being free of toxicity."

Of course, these are marketing obstacles. And the top firms in the fields—Merck, Pfizer, Upjohn, Olin Mathieson—all feel, as do smaller firms, that they would do better in the fight for the farmer's plant-

growth and protection dollar if the costs weren't higher than conventional agricultural pesticides, fungicides, and plant-growth aids. A top expert cited as a contrast that antibiotics for use in sprays cost 4 to 5 cents a gram, while copper sulfate sells for 19 cents for 450 grams—one pound.

Despite prices and other obstacles, growers of certain so-called money crops (tomatoes, peppers, tobacco) are enthusiastic about the plant-disease fighters turned out by drug firms and, what's more, buy them. Here are some of the products currently enjoying a good sale:

Pfizer, which practically launched the entire plant-world pharmaceutical business in 1954, counts heavily on Agri-Mycin 100, a streptomycin and Terramycin formulation—a light tan, free-flowing wettable powder. Another is Agri-Mycin 500, an antibiotic copper composition of streptomycin and Terramycin. Upjohn's best seller, as noted before, is Acti-Dione, a trade-mark for its brand of the antibiotic cycloheximide.

Merck puts out three popular items: Hormedon, a plant-root stimulant; Gibrel, a plant-growth stimulant used largely in the growing of grapes; and Agri-Strep, a pharmaceutical formulation designed to control blights in tomatoes, apples, pears, and tobacco.

These products are effective, but admittedly sell only to a small fraction of today's crop growers. Still untouched are many markets for antibiotics and micro-ingredients. A Merck official put it this way: "We haven't made a dent in the citrus fruit field—among growers of oranges, lemons, grapefruits. It's an untapped market because we have no effective products that could do an especially good job there.

"And in sweet corn, for example, there's hardly any incentive for farmers to buy our growth aids, because they would just add to the surplus."

The home-growers' market, the so-called ornamental field, has not expanded much, largely because of relatively high prices. Packaged fungicides put out by the pharmaceutical firms do a fine job on roses, chrysanthemums, and lawns, but they cost slightly more than conventional fungicides. Moreover, the stuff is so powerful that a little goes a long way.

Naturally, such modest success in the home-gardening and commercial agricultural market haven't made drug company accountants too happy. It adds edge to the lament that the early expectations of success for antibiotics and micro-ingredient plant aids have not been fulfilled. G. D. Baerman, sales manager of Olin Mathieson's insecticide products department, who is in the field through that company's ties with Squibb, says:

"Years ago, the big uses for these plant protective aids were visualized in fruit. But actually, the products for fruit proved pretty erratic from a control standpoint, the prices to the farmer compared with those of other pesticides was very high, and farmers wouldn't pay a fat premium for products that were not consistently effective. Sometimes a company recommended four doses of a certain product to control a bacterial blight, and the farmer discovered that it took 11 doses to complete the job."

Mr. Baerman added that, unless a product is consistently effective, the farmers get gun-shy. It's hard enough to sell new products the first time, let alone the second and the third.

Apart from erratic or spotty results from products, there is the unpredictable impact of mere geography. America is a sprawling country and hurricanes, droughts, slashing rains, or freezing cold may hit one state, not another. Similarly, diseases are unpredictable: there can be a major "bacterial spot" outbreak in tomatoes in one state only, or for only one season. Pear fireblight may ruin a crop one year, and scarcely show itself the next. Consequently, the market is not consistent.

For these varied reasons, American Cyanamid has dropped out of the plant-protection field. In 1958, Cyanamid first marketed Acco-Streptomycin, a product to control blight in fruit, primarily pears. But a year ago the company called a halt. "It's just too small a commodity market," explained Wayne Yoder, pesticide products manager of the Agricultural Division.

Another barrier against the widespread use of antibiotics and drug-derived plant stimulants is that, frequently, the formulations are somewhat difficult for the farmer to handle, and they are too expensive to be wasted. Speaking of costly spillage, Pfizer puts out a 25-pound drum of Agri-mycin, which is sold to the distributor for $67.50, who in turn gets $90 from the farmer. Since a half-pound bottle costs the farmer $1.80, every drop counts.

With today's limited market, the drug firms do not go overboard on publicity, advertising, and promotion. Yet occasional ads are placed in such publications as *The American Fruitgrower*. Most companies, however, practice a word-of-mouth approach. Technical people talk at meetings in grange halls, and are active among country agricultural agents, who can be very helpful.

Some industry observers see a connection between farm income and sales of the plant-growth and protective products. They contend that if the farmers had more to spend they might buy more expensive farm pharmaceuticals. Some insist that the next Administration's farm program may boost farm income, which could boost the market. Incidentally, recent statistics indicate that farm income in 1960 will equal that in 1959.

The future of micro-ingredients in the world of plants, fruit trees, vegetables, and other agricultural products may be beset with problems. There is, of course, intense competition among aggressive agricultural chemical companies, with their improved pesticides and growth stimulants. Add to this the lack of a consistent market and the high cost of making and marketing these farm pharmaceuticals and you

(*Continued on page 120*)

Drugs
THE INTERNATIONAL EXPLOSION

BY MILTON MOSKOWITZ

U. S. drug makers are taking their products to the four corners of the earth.

Before World War II, Europe was generally regarded as the fountainhead of pharmaceutical research. The world looked to European laboratories for the development of new drugs. There has since been a dramatic reversal of this position. The United States pharmaceutical industry, a small industry before World War II, has become the undisputed leader in the development of new drugs. European laboratories are still important and many new pharmaceuticals continue to originate there. However, even in cases where experimentation and discovery take place in Europe. it is often the U. S. industry which plays the key role in the development of a drug, to the point where it can be used by doctors to attack disease. This point was made recently by Dr. Selman Waksman, Russian-born co-discoverer of streptomycin. Dr. Waksman credited the United States with being the world leader in development of antibiotics. "Many countries are trying to catch up," he said. Dr. Waksman pointed out that, although penicillin was discovered in Britain, its usefulness in medical practice was first established in the U. S. Many other examples can be cited of drugs invented in Europe but first marketed on a wide scale by a U. S. company—Smith, Kline & French's Thorazine and Upjohn's Orinase are two that come to mind.

Hoffmann-La Roche's new tranquilizer, Librium, is a dramatic example of how U. S. laboratories have forged ahead. Here is a drug developed by the American subsidiary of a giant Swiss pharmaceutical house.

The post-World War II expansion of the U. S. pharmaceutical industry has spilled beyond the borders of the country. In company with other arms of U. S. industry, drug makers have taken their products to the four corners of the earth. U. S. business is currently engaged in the greatest international expansion in its history. Between 1950 and 1959, the value of total U. S. investment abroad rose from $12 billion to $30 billion. In the past three years, 350 new U. S. operations were started in Europe alone, with chemicals (under which pharmaceuticals are reported) accounting for a significant portion of this new investment. According to the U. S. Department of Commerce, during the past two years U. S. investment in chemical plants abroad has increased by 20 per cent, and sales at these foreign-based plants have leaped by 22 per cent. Indeed, chemicals now represent the largest U. S. investment abroad, outside of petroleum. At the end of 1959, U. S. chemical producers had $9.7 billion invested abroad, not far from the $10.4 billion of the oil industry. This growth is expected to continue. The Manufacturing Chemists' Association recently reported that a survey of 50 top chemical producers showed that 67 per cent plan to establish new overseas facilities in 1961, with this proportion increasing to 77 per cent during the next five years.

On the export level, sales are also extremely

healthy. In 1959, exports of chemical and allied products hit a record high of $1.6 billion and they will top this mark in 1960. Exports of medicinal and pharmaceutical preparations are currently running at $23,000,000 a month. The U. S. pharmaceutical industry exports 10 per cent of its production. Very few U. S. industries export such a high percentage of their output.

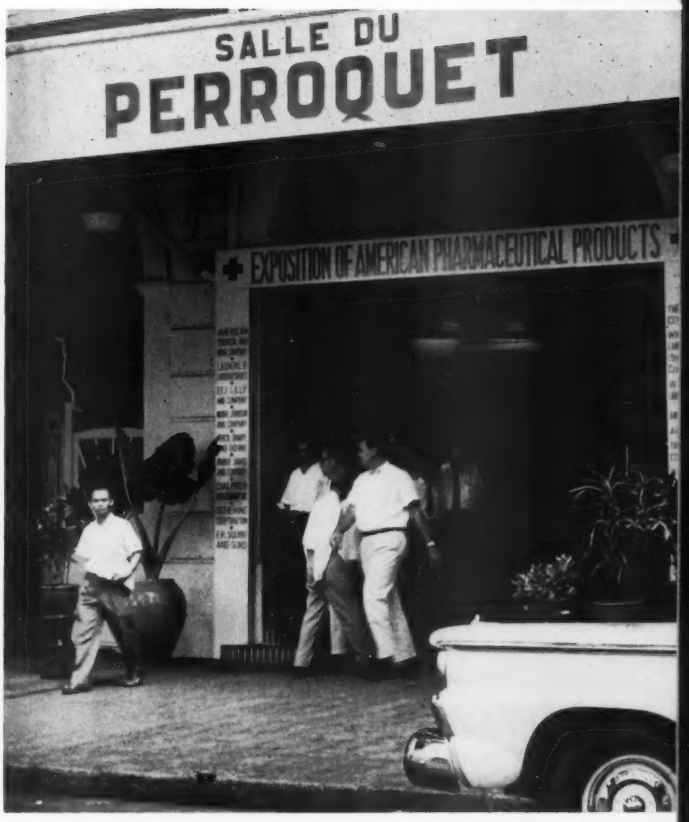
In short, foreign markets have become a vital area for U. S. drug producers, and it is not inconceivable —in fact, it is a long-term probability—that they will eventually bulk larger than the domestic market, from the standpoint of both sales and profits. Foreign sales of U. S. drugs are now estimated at $1 billion annually, compared with a domestic volume of $2.4 billion. This gap is expected to close as the health standards of the western world spread to the less developed areas. Already, many of the top U. S. drug companies chalk up a substantial volume of business abroad—and they are able to bring home much of this in the form of profits. Here are capsule snapshots of some major operations:

Abbott Laboratories—Foreign sales, now representing 26 per cent of total sales, jumped from $26,700,000 in 1957 to $31,800,000 in 1959. Last year, when the company registered a sales increase of $6,000,000, international operations accounted for *one-half* of this gain. Abbott opened new plants this year in Italy, England, and Colombia, and will soon be manufacturing in 20 countries. It calls its new Argentine plant "the finest installation of its kind in all of Latin America." Of the 8,700 people employed by Abbott, 3,500 work in overseas operations.

American Home Products. A colossus at home, AHP also has a hefty business abroad. Foreign sales, 18 per cent of total volume, have skyrocketed—from $20,000,000 in 1950 to $35,000,000 in 1955 to $68,000,000 in 1957 and to $82,000,000 in 1959. More than 10 per cent of total profits come from overseas, not all of which is drug business, of course. American Home cuts a wide swath across different product lines—drugs, toiletries, cosmetics, foods. Wyeth Laboratories, its principal ethical drug unit, manufactures in 14 countries, and sells in 60. Its Brazilian plant is one of the largest antibiotic manufacturers in Latin America.

Johnson & Johnson. Another international powerhouse with foreign sales now in excess of $70,000,000, this firm accounts for about 20 per cent of total volume. J&J has more than 20 subsidiary companies abroad. Of its 21,000 employees, more than one-third are located overseas. Foreign earnings zoomed 75 per cent last year to $4,300,000.

Eli Lilly and Company. Selling abroad since 1884, Lilly now manufactures in half a dozen countries overseas, sells in well over 100. Foreign sales account for an estimated 20 per cent of total volume. In 1957, foreign profits accounted for 8 per cent of total profits, in 1958, it went to 11 per cent, and last year Lilly derived 13 per cent of total net from foreign operations.



In Saigon, leading United States pharmaceutical producers joined forces recently to stage an exhibition of American drug products in the capital city of Vietnam. The exhibit attracted 5,000 visitors.

Merck & Co. Merck now does nearly 30 per cent of its business overseas. Foreign sales leaped from $46,000,000 in 1957 to $63,000,000 in 1959 and, during the same period, foreign profits *doubled*, moving from $5,200,000 to $10,500,000. Foreign profits last year accounted for 35 per cent of total net.

Parke, Davis & Co. A pioneer in the international field (PD even manufactured in Russia before the 1917 revolution), this company does 30 per cent of its business overseas, has foreign sales of about $60,000,000. Parke, Davis manufactures in plants all over the world. For the past three years its foreign profits have consistently represented more than 20 per cent of total net income.

Chas. Pfizer & Co. A latecomer, but certainly no slouch, Pfizer now manufactures in 20 countries and last year racked up foreign sales of $114,000,000, representing 45 per cent of the company's total sales. Pfizer sells virtually everywhere. It does not reveal the income derived from international operations, but informed observers make guesses that range from a *low* of 50 per cent to a high of 67 per cent of last year's total net income of $24,000,000. In other words, this is a formidable international operation.

Schering Corp. Schering has also moved rapidly. Foreign sales are now about $20,000,000, accounting for nearly one-quarter of total volume. More impressive is Schering's 1959 foreign profits of $5,000,000,

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EUROPEAN PHARMACEUTICAL RESEARCH

BY PAUL DE HAEN CONSULTANT TO THE PHARMACEUTICAL INDUSTRY

Mr. de Haen, who has just returned from the Continent, gives us his impressions of pharmaceutical research developments in Holland, Germany, and France.

If I were to design a trademark for the European pharmaceutical industry I would incorporate in it the picture of a building crane typical for the Continent, with an arm extending rectangularly which swings in all directions. These cranes dominate the landscape in practically every European pharmaceutical manufacturing plant, and represent the building of new offices and research and manufacturing facilities.

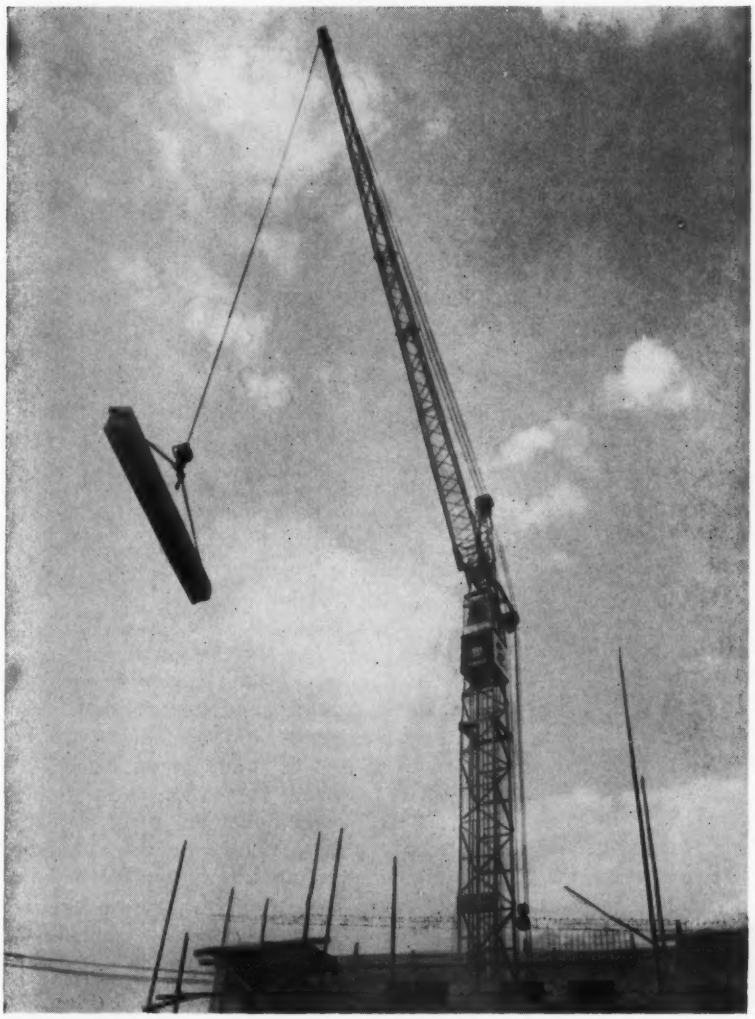
Let us cite a few examples. Farbenfabriken Bayer is putting up a thirty-three story office building; Farbwerke Hoechst has just completed a 300 foot private bridge over the River Main and opened up a large tract of land to be used for research facilities, pilot plants, and manufacturing purposes. The interesting feature of this setup is that each new research building will have adjacent to it a pilot plant to substantial size suited to each special type of research—pharmaceutical, chemical, dyestuffs, plastics, petrochemical. Philips-Duphar in Holland is doubling its research building and is extending its plant for the commercial production of radioactive pharmaceuticals and chemicals, similar to the facilities available in this country at Abbott Laboratories and E. R. Squibb & Sons. The research staff of another Dutch manufacturer, Brocades-Stheeman & Pharmacia, moved last year into a sizeable new and well-equipped research building. C. H. Boehringer & Sohn, Ingelheim, Germany, has put up modern structures which overshadow the old one-story buildings, and several new buildings are in various stages of completion. Room for expansion is contemplated everywhere.

These are only a few examples of the general development evident on the Continent. One of the most difficult problems European plants are confronted with today is the shortage of labor. In Germany over 400,000 foreign laborers are employed in industry, and the demand is not filled. A sign of increasing prosperity is the difficulty in finding sufficient parking space for the ever increasing number of cars used by employees. In some instances old buildings have had to be razed to make sufficient room.

Although the European pharmaceutical manufacturing industry has not been asleep in recent years, it it making every effort to maintain and expand its world position as a developer of new single-chemical medicinal agents. The emphasis is on research and manufacturing, although recently built and planned offices attest to the fact that Parkinson's law is not entirely unknown on the European continent.

Even though every effort is made to support research, I doubt that the new facilities will reach the same proportions and size as those of comparable American firms. Europeans have learned by tradition to get along with less personnel, especially less university-trained personnel. I have been told that, after the war, United States and British industrialists could not understand how so important a drug as the antimalarial quinacrine could have been developed by researchers operating in three small rooms, since in the United States several hundred scientists were employed to test all possible variations of the basic formula and, in the end, came up with the same compound.

European industrial research institutes operate at a lower cost than their American counterparts. This is not only because salaries and other expenses are lower, but also because the professional scientist is frequently supported by factory-trained assistants who have had no more than grade-school education. These assistants undergo a three-year course of practical training within the factory, interspersed with lectures. They are the arms and eyes and observation posts of the scientist. He knows that these men and women will carry out a given task with unvarying faithfulness. Perhaps because of the availability of such assistants, the European scientist has more



COURTESY FARBWERKE HOECHST

time to reflect and dream and develop the possibilities of serendipity. Routine testing is not the job of a scientist, but of an assistant, and to have a good laboratory assistant who does not vary from the assigned task is half the battle of research. Some research organizations in this country have followed and are following the European custom of training special nonprofessional assistants of this type.

The general approach to research in Europe seems to incline more toward intuition and feeling for a new lead to new chemical possibilities than to routine elaboration of already known facts, as is often the case in the United States. Once new knowledge has been gained, the procedure of testing its validity is probably similar in Europe to that used in this country.

The difference in approach to research problems between European and United States scientists today may also derive in part from differences in educational system. Where as in this country for many years the emphasis has been on learning facts, as exemplified by the prevalence of multiple-choice "objective" testing, the European educational system, geared to the "essay" presentation, puts greater emphasis on the digestion and relation of facts to one another. In Europe there is an absence of the "intermediate scientist" to be found in this conutry—the worker with a B.S. and M.S. in chemistry. To acquire a Ph.D. in chemistry in Germany, eight years of study and postgraduate work are required; a pharmacist can obtain his degree only after six years. These are long training periods. A European pharmacologist must first acquire an M.D. degree, whereas in this country a Ph.D. in pharmacology is sufficient. The earlier specialization practiced in the United States may, however, result in a more comprehensive knowledge of pharmacology.

It is significant that a director of one of the largest pharmaceutical research institutes in Europe still has the time and inclination to put on the white coat and direct his laboratory assistant in carrying out chem-

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MEN'S FRAGRANCES

Modern Sex Appeal

BY J. R. ELLIOTT
PERFUME CONSULTANT

Throughout history, the type and extent of masculine use of fragrances has been associated with the color and freedom of expression shown in male dress.

For example, consider the Renaissance and Elizabethan periods of sartorial elegance. Both eras introduced men's garments elaborately decorated with ruffles, furbelows, and almost feminine effects. Plenty of color was used in their design. But note: The men of both periods made liberal use of such fragrance effects as were available. Probably an even freer use would have been made if those effects had not been so costly.

Now let us jump a few centuries forward and look at this country since the turn of the century. In the intervening sixty-odd years, the United States has seen two major cycles of men's clothing and is now witnessing a third, which may have far reaching consequences on men's fragrances.

The Mauve Decade (1890-1900), an era that has been charmingly described as "before taxes but after plumbing," was characterized by the disappearance of the booth in the backyard. The period was part of the Victorian era, which continued to be influential until about 1918.

Men's clothing of that time was simple. A man owned a few "working" suits, usually a bit shabby and worn, and a "good" blue serge for Sundays and special occasions. That Sunday-go-to-meetin' suit was a ready-made monstrosity euphemistically described in the Sears-Roebuck catalogue as an "Elegant Gent's Sack Suit." It was just that, a shapeless, drab-blue potato sack that fitted with the casual grace of a pair of overalls.

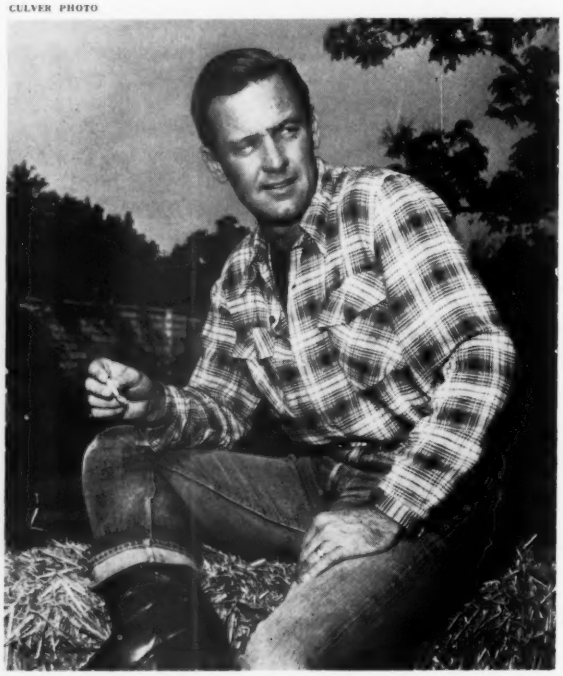
When a man put on his Sunday suit, it was difficult to tell whether he was going to his church, his lodge meeting, or a firemen's convention. This Victorian uniform was thus generally acceptable for all occasions. Men grumbled, but their womenfolk and the clergy kept them in line right up to about 1924.

The artificial restrictions of this late Victorian period gave very little latitude for men's use of fragrance. The best they could do was hair tonics, and even these had to be toned down on account of that old bugaboo—suspicion of effeminacy. About the only fragrant lotion a man dared put on his face was bay rum, or possibly witch hazel. Anything more elaborate than this would have caused raised eyebrows and a clerical chiding.

But after their European experiences in World War I, men rebelled openly, and no amount of henpecking at home or thundering from the pulpit could stem the tide of change.

Golf knickers in huge plaids appeared. "Plus fours" they were called, because of the deliberate bulkiness at the knees. Screaming colored sweaters, fancy fringed shoes, and howling long-legged Argyle golf socks completed the picture. The total ensemble even became appropriate for business wear, apparently as a gesture of defiance against the earlier

CULVER PHOTO



BETTMAN ARCHIVE

Victorian restrictions. The "plus fours" became "plus sixes," and finally became so droopy as "plus eights" as to inspire the wisecrack: "Hey pants, where you going with that boy?"

In this post-World War I rebellion, men wanted to wear fragrance as they had done in the distant past. Man is essentially a showboy, and this generation was no exception, but there was nothing spectacular enough on the market. In fact, there was little to choose from. The men's fragrance market was building up like water behind a dam, but no one seemed aware of this desire or of the social change driving it.

The desire for a man's fragrance representing the daring and abandon of that era continued all through the Roaring Twenties. In the heart of the depression this wish was granted, but in a lefthanded fashion. A famous spice cologne came out in the early Thirties. It was an instant success, probably because it gave expression to the pent-up fire of rebellion remaining from the Roaring Twenties and to the new desire for something to express a bravado towards the troubles of the depression.

But please note that there hasn't been a truly new and spectacularly successful men's fragrance since about 1932. Various efforts have been made, even at much higher prices, but none has been distinguished with success. Most of the allegedly new stuff on the market harks back to the tired, old-fashioned hair tonics of the Victorian period. The perfume industry has not kept pace with the public's changing tastes.

To return to the association between men's clothes and fragrances, in the last few years, men's styles have again been on the march. The trend is towards better tailoring, better color, and designs with definitely more sex appeal. We are now entering a third era in which sex will play an increasing part in the design, promotion, and sale of a men's line.

To show another, and very recent, view of the changing scene, let me describe a personal experience. A few month's ago, while on a week-end visit. I was puzzled to note that my host maintained four different men's lotions and talcs on his bath table.

At breakfast I inquired, and received an outspoken reply. In effect, he said, "When I get tired of one odor I switch to another. Frankly, I'm getting tired of them all. I've tried a number of the newer items but have thrown them all into the barrel. Some were just goshawful. You fellows should be ashamed of yourselves."

To which I retorted with a tinge of bitterness, "Our products cost money—more than our customers are willing to pay."

This exchange indicates an increasing discontent with the current themes of men's fragrances, and a search for novelty. As men develop a better appreciation of fragrances, they become less and less pleased with re-hashes of the Victorian odors.

I am by no means alone in recognizing this fact. The way social and political prejudices are tumbling down around us, makes it evident that we are on the threshold of broad changes in ideas. Our men's fragrance industry may stand around like a covey of politicians, wringing hands and viewing with alarm, but make no mistake, we are going to be hit by this wave of the future—like it or not. In many ways the situation recalls Mark Twain's famous wisecrack about the weather: "Everyone talks about it, but no one does anything about it."

Lest I seem cynical, let me take a constructive approach and report on some more surprising and enlightening direct experiences.

Over the past three years I have participated in the preparation of a series of masculine odors for an exploratory research program operated by a group outside our trade. The objective was to understand the present fragrance tastes of men with the thought of invading this field as a "diversifying" investment. The project was most interesting because the group's approach was unhampered by the prejudices and infighting usually encountered in our industry.

The subjects for this survey were a careful assortment of husband-and-wife teams. My part was the design of original fragrances to test men's willingness to accept something genuinely off the beaten path, truly "different." There were no price restrictions, since this was a purely research effort not involving selling.

These projects were fascinating, informative, and a real eye-opener. They knocked the day lights out of the perfumer's idea of what constitutes a good men's fragrance, not to mention that of the executive and the advertising man's. The public's taste seems to have altered sharply for the better, a change that

has not been matched by a parallel improvement in present fragrance offerings.

Traditionally, perfumers have believed that a man's fragrance should reflect his sport, his play, his hobby, or his relaxation. I have tried to pin this thinking to some specific source, but the most that can be said is that it is of European origin, with England a slight favorite over France.

The result of this view over the last 20 years has produced a rash of men's odors keyed to leather (horsemanship), fougere (outdoors), tobacco (pipe-dreaming), lavender (social elegance), chypre (forest), and the like.

Actually, men do not respond at all favorably to these effects. Given a free choice, they will overwhelmingly choose extremely showy odors of the floral-fantasy type. They want products that are real attention-catchers. Delicately made fragrances with the suave, allegedly aristocratic touch are a complete bust. Furthermore, the tight European style of blending is not appreciated. In fact a bit of "edginess" is desirable. Americans seem to like their fragrances like their liquor, a bit on the raw side.

Floral-fantasies, that is, fragrances with strong floral notes that nevertheless do not represent a specific flower, showed the greatest popularity with both men and women. The most successful odors in this class were those designed with a contrasting background to emphasize the total bouquet. Chypre notes seemed to perform best in this circumstance.

Oddly, straight floral effects (rose, lilac, and the like) were well regarded by men, but they were disliked by women when worn by men. The women's given reason: Too close an association with feminine tastes. Perhaps a better interpretation might have been a fear of a competitive fragrance attraction. One thing is sure: A man's fragrance must be as acceptable to women as to men, if it is to have commercial acceptance. How many times we perfumers have failed on this point!

Other fragrances did not fare so well. Leather was a real "dog." Nevertheless, leather effects in other compositions worked out well, when used as midifying bases and not principal effects. Tobacco was like leather, but proved interesting in fragrances with high citrus tones. Fougeres were a real flop.

Lavender ran middle-of-the-road, except when it was dressed up with florals. Then it gave a reasonable account of itself. The problem here is that every lavender marketed must eventually compete with the famous English lavender—tough competition.

Throughout these various projects, it was obvious that those products with great diffusiveness and flair of showmanship always seemed to reach the upper bracket of preference. The information developed from these surveys was in distinct contrast to the generally expressed ideas of perfumers. The latter appear to be so tightly bound by tradition that they cannot, or will not, break their bonds.

Men have been undergoing a great change in their fragrance thinking, and a desire for a clearly different fragrance type has been building up for several years. In many respects the present is comparable to the Roaring Twenties, when the desire existed for a fragrance representing the times but was not satisfied until several years later, with the advent of the famous spice cologne. Satisfying the public's desire, then, founded a multimillion dollar business. Perhaps we are on the eve of another.

In the light of past history, the observations of the survey, and the present trend of men's clothing styles, I predict that the coming men's fragrance favorite will be a showy, distinctly sexy type.

Now that the subject of sex appeal has come up, let's give it a real going over. Like it or not, perfumers are going to develop it in fragrances, and promotional people are going to use its many ramifications in selling.

The promotion of men's fragrances has ambled along on a dignified basis for a long while. The emphasis has been on suavity, elegance, snobbishness, and a touch of glamour. We feel that both perfumers and executives have missed the true reason why men use fragrance.

I have asked a number of people why they don't break out of the rut and offer a real "blockbuster" of a men's fragrance, full of originality and sex appeal. In response, I have received a haughty look, the "fish-eye" treatment, and a pompous discussion of a mumbo-jumbo which they call "customer acceptance." The latter may be described as a smokescreen of regimented ignorance.

A man has two reasons for doing anything. One is for publication. The other is the real one.

Ask a man why he wears a cologne. He will tell you in great detail: It smells clean, it's fresh and bracing, it tingles the skin, it is suave, and so on, and so on.

Now give this same man a few shots of liquor to loosen his tongue, and get the real reason! He wants to smell seductive, desirable to women.

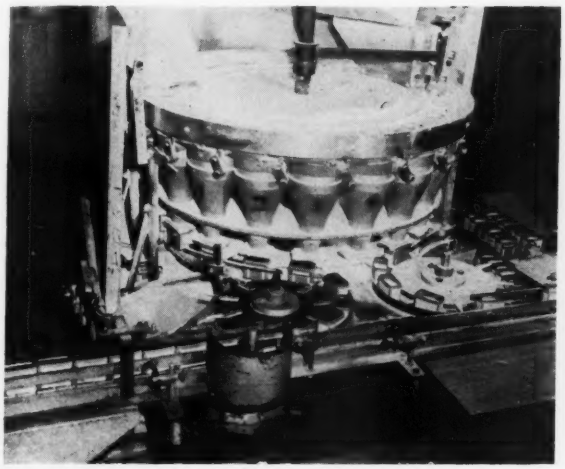
Keep in mind that the male of any species has brighter plumage, better fur, or a special personality effect, all designed to attract the female.

Consider the busy beaver. Nature has equipped him with built-in sex appeal in the form of a gland that secretes castoreum—familiar to every perfumer.

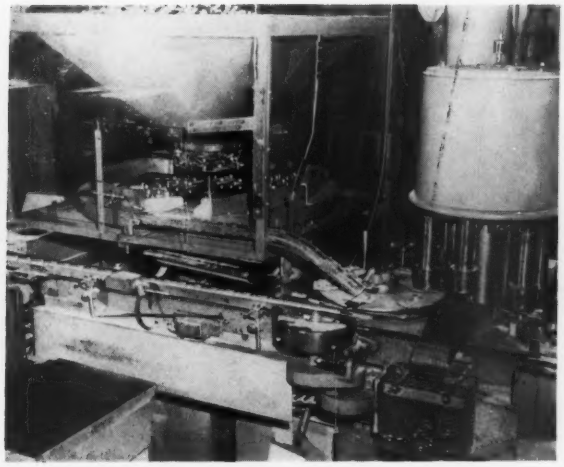
When papa beaver has completed his nest he sprays a few drops of castoreum on the water, thus sending his love-call lazily floating downstream. The eligible beaveresses then swim ecstatically upstream with the equivalent of stars in their beady eyes. Papa surveys the field, picks his mate and sets up housekeeping.

In passing, it is interesting that traces of castoreum

(*Continued on page 113*)



Empty containers enter the Frazier rotary filler from the left. Block Drug Company's Polident powdered denture cleanser is fed through a pipe from the mixing room on the floor above to a controller feeder tray. It is then pushed through shielded filler spouts into lifted containers.



The filled container is lowered to a conveyor and moves on to be breasted—fitted with the upper section, which is shunted down a chute single-file, from a circular accumulating tray—by a Consolidated automatic machine. Tightener at right firmly affixes top section to it.

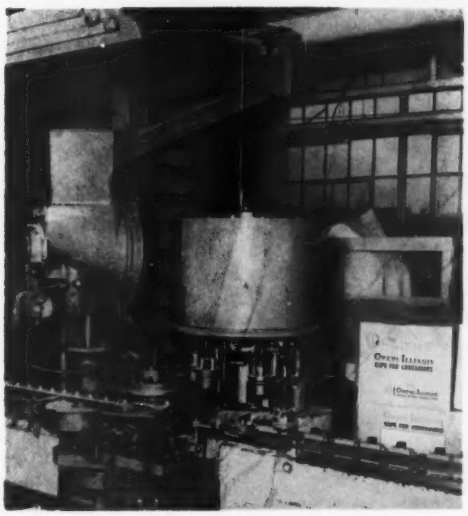
ROTARY POWDER FILLER INCREASES LINE SPEED

When Block Drug Company of Jersey City wanted a new filling machine for its Polident Denture Cleanser packaging line, it sought an automatic unit with the following features:

1. Ability to integrate with a completely automatic conveyorized line
2. Provision for maintaining high sanitary requirements and maximum protection of powder product against humidity
3. Ability to increase speed to more than twice that of its previous filling machine.

The machine chosen was an 18-pocket rotary filling machine designed by Frazier & Son, Allwood, Clifton, N. J., manufacturers of filling and materials handling equipment for nonliquid products. The filler operates more than 140 per cent faster than its auger type predecessor, and has been coordinated perfectly with a continuous-line operation that works eight, and sometimes 16 hours per day.

Another important factor was cost, according to Jack Quigley, plant manager. "This," he explained, "covers both the machine's actual cost and its estimated maintenance requirements." "The Frazier filler was chosen," he added, "because its design and operating simplicity showed it to be from four to five times lower in total expenditure than other fillers that would do the same job."



The container, now filled and breasted, continues on the line to be screw-capped by a Consolidated capper. Caps are transported by Frazier Whiz Lifter elevator-conveyor shown in rear, picked up from a circular accumulator-feeder tray and lowered, whirling, to container.

Extremely simple in operation, the Frazier rotary filler is container fed from a U. S. Machinery Service unscrambling machine. At the same time, it is product fed by a pipe from the mixing room on the floor above. The product travels down to a circular controller feeder tray and is then delivered to the filling spouts, where a conveyor raises the container for contact with the filling spout and lowers it after filling is accomplished. The spout is completely shielded, protecting the product against entry of outside elements and also preventing the fine powder from being affected by humidity. From the filling machine, the filled container is returned to the line, where it is breasted and screw-capped by automatic Consolidated machines. A Jones Constant Motion

(*Continued on page 117*)

Packaging and Selling

"The first order of new business, gentlemen, is to examine our costs to see where we can make some reductions."

These and similar words are being spoken across the country in an increasing number of American businesses. Among all the problems business faces, this seems to occupy the primary position in the minds of businessmen today.

True, profits are shrinking in many American businesses. But there is also a sound, constructive reason for a reappraisal of costs in some business departments that have acquired a lot of easy-going methods during these lush years.

American business has become more productive and more efficient in the factory. As automation and computing and a number of new production methods are introduced, it always seems as if these savings have been eaten up by increasing costs of distribution and selling. It is probably in two departments, distribution and product development, that the greatest opportunities for cost cutting and efficient savings can be found.

For instance, in the employment of the sales force, manufacturers who are again beginning to analyze the cost of selling are discovering startling examples of waste. So far as the salesman goes, these wastes may be classified as:

1. A failure to utilize time properly.
2. A failure to utilize sales help properly.
3. A failure to realize the buyer's problem properly.
4. A failure to close the sale.

The utilization of time has always been a serious problem in controlling salesmen. A little over ten years ago the College of Commerce and Administration at Ohio State University made a detailed, comprehensive study of the effectiveness of salesmen working for wholesale drug houses. In this study it was found that far less than half of a salesman's time was employed in effective salestime. Large areas of waste were discovered here. It was also shown that salesmen often failed to utilize properly the sales help furnished them, and that the salesmen who did utilize this help substantially increased sales.

Around the country, in this trade as well as others, considerable serious study has been given to help the salesman to spend as much time as possible each day with the buyer engaged in actual selling. Many manufacturers are readjusting routes, are seriously cutting down on the paper work that overloads many salesmen, and are making other changes that will, undoubtedly, effectively streamline the sales force.

Of course, being able to take the buyer's viewpoint and to close a sale, many people in the head office believe, is the source of the fundamental weakness of the postwar salesmen, which can only be corrected by a rigid new method of sales training and salesmen selection.

As to savings available from the production of new products, many things are happening. We seem to be leaving the approach recently called phony obsolescence, with resulting large savings to both the public and the manufacturer. Many other manufacturers are surveying their lines with an eye to eliminating the products that are not paying for their board. Still others are becoming much more critical in accepting new products. Just as planned obsolescence seems to be passing, so also the period may be passing when a new product can be justified simply because it is new, even though a little analysis will show it to be simply an imitation of a number of things on the market or a new product created simply for a promotion or a sales talking point on the basis of newness.

A tremendous amount of money has been spent, indeed, wasted in the last decade on products that never should have been born, on retailers whose accounts never should have been opened, and on poorly planned, impulsive advertising that never should have been placed.

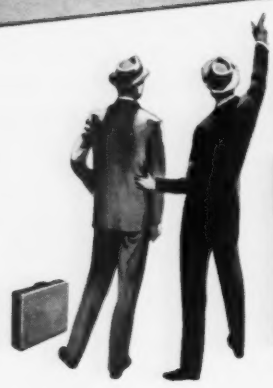
In this area alone, on the things that never should have been born a hard-boiled, intelligent, critical approach holds the possibility of substantial savings.

Syntex Laboratories is introducing two new pharmaceutical merchandising concepts. The first of these is gradient discounts, which are designed to insure more thorough national distribution of prescription drugs by providing wholesale discount levels scaled inversely to wholesale unit price levels.

The Syntex gradient-discount schedule is based on the price paid by retail pharmacy to the wholesaler, and provides discounts to the wholesaler of 22.5 per cent for all prescription items with a list price of $3.00 or less; 20 per cent discounts for units with a wholesale list price between $3.01 and $6.00; and 17.5 per cent discounts for units listed at $6.01 and up.

The second concept is a "pay as you sell" policy, which requires wholesalers to pay each month only for packages moved from wholesale stocks to retail

AEROSOL PACKAGING MAKES BEAUTIFUL PROFITS



Ucon brand propellants put action in products

Why don't you discover UCON Propellant service, too?

UNION CARBIDE CHEMICALS COMPANY
Division of Union Carbide Corporation
30 East 42nd Street, New York 17, N. Y.

UCON and UNION CARBIDE are registered trade marks of Union Carbide Corporation

pharmacies and hopsitals. The aim is to encourage wholesalers to maintain for indefinite periods drugs that may be rarely called for, but which may be life-saving in isolated cases.

A new line of teen-age cosmetics is being introduced by Romel Cosmetics of Philadelphia. This is to be a complete cleansing and make-up entity with other items to care for the complexion.

Some of the products included are Polished Apple liquid rouge, Kid Glove hand lotion, Prom Pink and Kookie Coral lipsticks and Peak-a-blue and Simply Green hint-of-a-tint eye shadows.

The teen-age market for cosmetics is already growing vigorously and includes quite a few people. It seems to us, however, that as the number and variety of teen-age lines increase, and as the advertising and promotions increase, there will be an accelerating recognition by teen-agers that they have a division of the cosmetic industry all to themselves.

Supermarket grocery stores expected a big Christmas season in cosmetics, according to Super Market News correspondents in various parts of the country.

Not all supermarkets joined in this drive and there are substantial geographical differences. Nevertheless, among some of the giant chains, there was a definite program to foster Christmas cosmetics sales.

One of the correspondants reported that the chief cause for optimism among the large chains in Cleveland was the availability this year of the two holiday packages of two very well-known cosmetic companies. Other cosmetic companies not normally represented in supermarkets gave some of their gift packages to some of the supermarket chains.

To quote a reporter, "The breakthrough is attributed to continuing pressures from officials of some of the larger supermarket organizations, plus a drive by certain jobbers."

Again, "Supermarkets in the Buffalo area will be hot after Christmas gift business in a wide variety of cosmetics and toiletries this season. Both chains and independents will be making a bid for plus business in their health and beauty aids sections by spotlighting gift cosmetics and toiletries.

"Shaving sets are due to receive strong display treatment in both chains and independents."

"Many supers plan newspaper advertising and special point-of-sale display. They will feature cosmetics and toiletries that are specially packaged as gift items and sets and strong managers will rely on eye appeal of these packages on building point-of-sale displays. Most supers will rely on manufacturer gift packs entirely."

This move to participate in the large gift business in cosmetics is not uniform by any means and, in the case of certain managements, a program that will not be emphasized in their store. For instance, here is the comment of one buyer. "Customers don't expect to find more costly health and beauty aids there, and I don't think they would buy even if we stocked the high-end lines. People demand a more elegant atmosphere than a food market when shopping for costly items; they go to a good department or specialty store where their purchase can be gift wrapped.

"We would be foolish to plan any change upwards from low and medium-priced national brands, which are fast turnover items with acceptance created by extensive advertising."

Quite a furor arose when the Shell Oil Company decided to select an advertising agency on the basis of a new form of remuneration. This meant abandoning the traditional and almost compulsory way of paying an advertising agency, that is, on the basis of a 15 per cent commission paid by each publisher, and establishing a new form of remuneration based on a fee for the quality and amount of work actually performed. Here is how the head of the agency selected stated its position:

"We believe the commission system is an anachronism. We would prefer to work on a fee basis. It seems to us the client-agency relationship is most satisfactory when the agency's emoluments are not related to the amount of money it can persuade the client to spend on advertising.

"We would like to be in a position to advise Shell to spend more without anyone questioning our motive . . . We would prefer not to relate our charges to your expenditures. We would request a fee equal to our actual costs as recorded by our cost accountant, plus a percentage of those costs for profit."

Small publications have viewed this system of remuneration with a very jaundiced eye for a long time. This is because they know perfectly well that no matter how honest and sincere an advertising agency might be, it is certainly influenced in some way and to some extent by the 15 per cent commission paid on magazines such as *Life* and *The Readers Digest*, for which the page rate runs from $20,000 to $30,000 or more, and that many agencies consider the smaller publications a pain in the neck, particularly the trade press, having a page rate somewhere between $200 or $300.

Some leading advertising men from some leading agencies have stated publicly that trade magazines mean a substantial loss to them. This is, of course, regardless of how valuable they might be to a client as part of an over-all campaign. Of course, preparing a page for a trade magazine can involve substantial work from high-priced talent, making the loss to the agency severe.

The day may come when this obsolete and dangerous method of agency remuneration is thrown in the ash can. Why should an advertiser want advertising media selected on the basis of agency cost and overhead? Certainly the value of an advertising medium to an advertiser bears no relation to the cost in the production department of an advertising agency.

A new plastic smallpox vaccination device made of acrylic plastic may replace the needle in vaccination techniques, according to Lincoln Laboratories of Decatur, Ill.

This is a small strip of plastic with small prongs upon which the vaccine is placed, which fits over the thumb. The thumb is pressed against the arm, resulting in a vaccination.

When a pebble is tossed in a pool, the ripples spread out way beyond the original splash.

When the A&P food chain, a mere $5 and $6 billion annual sales operation, announced that it would limit profits to 1 per cent of sales, this appeared less a pebble than a very large rock tossed into the midst of food circles.

One of the interesting and almost immediate results was that another very large food operation having around $400 million a year in sales decided it could not possibly meet this competition on food, and chose to diversify into other industries with a more luscious profit margin.

Which explains why one of the consulting cosmetic chemists is now hard at work with this huge outfit helping determine whether to become a full-fledged cosmetic manufacturer and distributor.

Just put all of this down to cause and effect.

A new medical paper, *The Medical News*, will appear as an independent weekly newspaper for doctors on January 6. This is the journal that, until recently, has been published by Ciba.

Scented advertising has appeared now in a number of newspapers and been used widely for direct mail but not, so far as we know, in a consumer magazine. This will soon happen, however, because Richardson-Merrell has scheduled a 4-page insert advertisement in the eastern New England edition of *TV Guide* with a circulation of 450,000 copies.

An inner page of the insert will have a picture of a plastic bottle of the nasal spray with a cloud of spray coming from the nozzle.

"Sniff this spot," the copy next to the picture of the cloud commands.

If the reader will then dutifully sniff, he will get a gentle whiff of the odor in the company's Sinex Nasal Spray.

One thing on which almost all speakers at business conventions and panels seem to agree is that next year it will be much tougher to launch a new product. An expert in this field, Thomas S. Harrison, new products manager for Lehn & Fink Products Corp., recently stated at a panel that a manufacturer must take three important steps if he would keep the cost of his test product operations down.

1. The manufacturer should have definite, well-defined new products criteria.

2. The products should be demonstrably different or better than those of his competition.

3. He must have a well-planned test market operation.

Among the factors common to new product introductions are: testing as few merchandising variables as possible; duplicating markets to verify results; setting up sales goals based on actual store audits, rather than other "usually meaningless and often misleading" criteria.

Most sales departments are uneasily aware that we are entering some sort of a new sales climate.

Two statements from McCall's third National Congress on Better Living point this up.

In a roundtable discussion among these consumer representatives it was pretty thoroughly agreed that manufacturers and dealers should "improve what we have before you give us something new." And further, "quality" in any product was defined as "the ability to endure."

These two opinions seem to mark the end of the joyride on premature obsolescence, which was such a lucrative thing while it lasted for automobiles, refrigerators, and the like, and they may also indicate a serious slow-down in the public's eagerness for new products and new packages irrespective of their merit.

When it came to cosmetics, this jury of consumer opinion aimed its criticism more at the presentation of products in advertising than at the products themselves. Price was not the determining factor for a cosmetic. What they wanted was more real information about the product's performance, and they wanted retail sales help to be more truly helpful.

Clothes and cosmetics make today's teen-age girl tick, according to *Seventeen*. In a survey by the magazine 60.8 per cent of those teen-age girls surveyed spend some portion of their $9.53 a week earnings and allowances on cosmetics.

The speculation of the moment: What will Metrecal do to the Diner's Club?

There are already several recorded cases in which a customer invited for lunch asked for Metrecal.

This $60-million market, probably on its way to a much higher sales volume, is rapidly becoming one of the most crowded in the trade. The reason for this is that Metrecal contains no secret ingredients, is readily compounded and packaged, and is in a dynamically rising market.

As one leading nutritionist says, "You can buy nonfat dry milk, take the right vitamins and achieve the same result."

While this hardly seems fair, to us, it certainly is time that a new and important dimension has been added to nutrition.

The antiseptic action of essential oils has long been known and, in fact, there is quite a bit of literature on this subject, although some may be out of date. At any rate, a team of Long Island University scientists headed by a professor of biology has discovered that perfume oils kill both bacteria and fungi, both for the person who wears perfume and the one who inhales it.

Over 100 oils were tested in this three-year experiment, both in liquid and vapor forms, and 75 or more were found to have varying degrees of effectiveness in killing bacteria and fungi.

Newspaper Market Data, recently published by the *Richmond Times-Dispatch*, contains a great deal of valuable information for sales people. Included are tables on population, buying power, retail sales, and drugstore sales in leading metropolitan markets.

One table that interested us very much was headed, "Percentage Readership Norms at Various Ad Size Levels." This means the average percentage figures of readership according to the type of product and the size of the advertisement. This data was calculated from a great deal of material from the Daniel Starch research studies.

It appears from these tables that women are far more responsive to cosmetic or toilet article advertisements than are men, and are much more responsive to the larger advertisements. For instance, for women the norm for an advertisement of 100 lines was 6.7 per cent, and that for 2,400 lines, 45.7 per cent.

The advertising for seven product classifications out of a total of 20 listed was more interesting to women than that of the toilet goods advertisemeants. Five of these seven, however, were divisions of the food field. The other two were industrial and publications.

Quantities of dollars are lost every year through faulty packaging, according to Hugh Schwartz, an executive director of the Institute for Design Analysis. To anyone in packaging, this will bring ready agreement.

However, Mr. Schwartz lists six "totally false or dangerously half-true assumptions" in the general area of visual research as related to package design. He emphasized that these concepts were particularly insidious, in that each had about it "the sweet sound of reasonableness."

Since these assumptions account for a great deal of poor packaging, they are worth recording.

1. Results that occur in a controlled research situation will also occur in an actual marketing situation.

Mr. Schwartz thinks this is one of the most dangerous assumptions. It seems to us to be a very general assumption and one that is even sold by a lot of market research people. According to Mr. Schwartz, in a competitive situation many products and packages—and a multiplicity of other factors—are fighting for the consumer's attention, not just one or two elements used in the usual controlled test. The challenge is to duplicate as nearly as possible the actual retail situation; only then can one make intelligent predictions about the relative sales effectiveness of various package designs.

2. The package which is seen first has a competitive advantage.

It is commonly assumed that what the consumer sees first is what she is most attracted to. This is not so. A package which screams for attention may get this attention, but if it gives no further reason for purchasing it, the consumer may well pass it by for something else.

3. Certain colors, or combinations of colors, have greater consumer appeal than others.

A particular color or combination of colors which was appropriate two years ago might not be equally effective today—even on the very same product. Acceptance, and connotations, of both colors and products are constantly on the change. Because color taste changes continually, and varies from product to product, the only true gauge is to test the specific package under study in its context—its product category, its brand image, its competition, and its unique selling environment.

4. If you expose test designs to consumers in their homes, you may generalize about which designs might sell the product better.

This assumption is taken very much as a matter of fact. However, while in-home interviews are valuable in gaining insights into which packages might be more pleasant to "live with," they do not provide valid answers as to which will sell better at the point of purchase. Design effectiveness at point of purchase can be predicted only by research conducted in retail outlets, or in a situation which duplicates as nearly as possible actual marketing conditions.

5. It is reasonable to assume that the parts of the package add up to the whole package.

Often, individual letters or symbols are extracted from the package, and tested for their comparative effectiveness. This should not be done, for all the individual elements of the package are never equal to the total sum of the package. These various elements, however, should be individually analyzed for their contribution to the whole—never unnaturally divorced from the total package.

6. A mechanical test of the visual effectiveness of a package is reliable.

Unfortunately, there is no mechanical test for visual effectiveness—only for visibility per se. At most, the value of such tests is limited to which letter style or color combination can be seen first. What we are really after, of course—which no mechanical gadget can reveal—is whether or not the over-all appearance of the package will compel the consumer to purchase it.

Drugs and cosmetics are safer beneath

TASK-DESIGNED

Crown closures

Task-Designed Crown closures provide attractive and efficient protection for a wide variety of products. Whether your needs are best met by the glamorous Meritseal®, or lug or screw caps, you can count on Crown for efficiency, dependability and economy.

Task-Designed Crown lining systems include all standard types plus many special-purpose liners exclusive with Crown. Whatever the nature of your product, you can find the liner you need at Crown. May we send you more information?

CROWN

for closures · cans · crowns · machinery

CROWN CORK & SEAL CO., INC., 9300 Ashton Road, Philadelphia 36, Pa.

News in Packaging . . .

The Diana Awards

DIANA awards for packaging were made at the recent National Wholesale Druggists' Association annual convention at Bal Harbor, Fla.

In packaging for pharmaceuticals, the award went to J. B. Roerig & Co.; for proprietaries, to Mead Johnson & Co.; and for toiletries, Northam Warren Corp.

Pearl Pigments

Rona Laboratories, Inc., East 21st and East 22nd Streets, Bayonne, N.J. has issued a complete technical brochure covering properties, typical uses, and general procedure in the applications of its pearl pigments. Special sections cover technical information on coating, casting, compounding, and cosmetics.

Transparent Coating for Metals

Sunflex, a newly developed perspiration resistant, clear, transparent coating for application on brass, copper, and aluminum, has been introduced by the Sun Chemical Corporation's Chemical Coatings Division.

Because of its resistance to marring, scratching, and other abrasion, it is recommended for such products as lipstick cases and compacts. The synthetic resin is cured in 2 minutes.

Glass Usage Forecast

A 7 per cent increase in glass container demand in 1961 over that of 1960 was forecast by Peter W. Hoguet, president of the Econometric Institute, at the recent meeting of the Glass Container Manufacturers Institute in Florida. Total demand is expected to reach 170.1, he said. A 12 per cent gain is expected in medicinal glass containers, and an increase of 7 per cent for toiletries and cosmetics.

Dorothy Gray's new Special Fragrance atomist series includes a 2-oz. Foster Forbes bottle, filled by Aerosol Techniques, and a Pharma Plastic overcap. Outer box by R. K. Printing.

Two new pressed compacts by Luzier, Inc. div. of Bristol-Myers—one in brushed silver with polished brass center; the other in white plastic with gold trim—repeat design on gold-stamped carton by the Lord Baltimore Press.

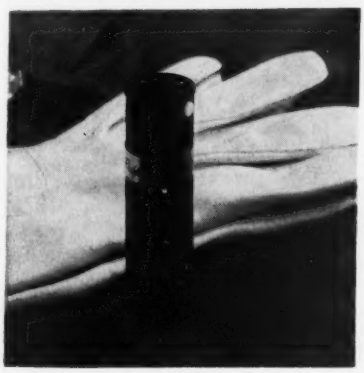
Transparent Label Cement

Aqua-Pruf, a crystal-clear, water-resistant label cement and coating has been developed by Adhesive Products Corp. The product will adhere labels to metal, wood, corrugated board, and other materials, and can also be used as a protective coating.

Jean D'Albret presents atomizers imported from France with metered sprays for the company's two fragrances. The gold-finished cases are embossed with a fleur de lys for Ecusson, a griffon for Casaque, and have glass refills.

Designed by Jackmeyer Corp. and produced by Medi-Seal Co., a new blister package for drugs is available to pharmacies in any combination of colors. Includes permanent record of pharmacist, and prescription for possible reorder.

Richford's Touch-N-Spray purse-size perfume aerosol containers have new colorful basket-weave covers by R. C. Molding, made of Tenite polyethylene by Eastman. Covers protect containers and resist shock from dropping.



Winthrop Laboratories', div. of Sterling Drug, new aerosol antiseptic, Zephiran Spray, comes in a red plastic-coated bottle by Wheaton Plastic-Cote. Filled by Armstrong Lab., its mechanical break-up valve by The Risdon Mfg. Co.

New Tulox containers by Extruded Plastics of Tenite acetate plastic by Eastman, eliminate outer labels on Merck Sharp & Dohme's Tetravax. Side slot enables expiration date to be stamped on bottle within container.

NEWS and VIEWS

BY TED KLEIN PUBLIC RELATIONS DIRECTOR*

A Good Look

The other day I had lunch with a young man who, in less than two years, has built his business to the point where he now grosses over a million dollars. In telling me how it was achieved, he said, "I guess we were lucky enough to come out with an idea that no one had thought of and to merchandise it so that those who needed the service would have a chance to hear about us."

He then said, pensively, "You know what I'm going to do for the next few months? I'm not going out after a single new account. We have enough now and, with the sort of business that walks in the front door every week, I don't think we need to keep on prospecting. No, I'm going to stay inside and see that we have the best possible operation. I'm going to take a long look at every way in which we service our accounts. Each client will soon hear from me; I'll be asking for their beefs, not their praise."

When I asked why, he replied, "because I'm convinced that if, for the next few years, I keep the accounts I now have and grow with them, I'll be able to do all right. Of course, we'll grow far more slowly, but we'll have solid accounts."

It seems to me that this man's business will withstand many minor economic tremors, possibly a major one. He can do it because he still has a small shop of 100 or so, and is young enough to work 18 hours a day. Such effort, I feel, is too often missing in organizations both larger and smaller than his. How many executives get up from their desks every so often to take a long look at each and every part of their organization. How many plan in this way for next year and the year after that?

Science in Advertising

"The Role of Science in Advertising" was the subject of a recent symposium sponsored by The Association of Consulting Chemists and Chemical Engineers, Inc., with panelists representing industry, government, and advertising.

In his opening statement, Dr. Erwin Di Cyan, moderator of the symposium, and past president of the Association, said, "Advertising, or the role of science therein, has many faces. Advertising is sometimes censured as a sort of fraudulent component of modern life; science is at times excoriated as lending itself to stultification and prostitution in the interests of 'Brand X' which 'independent laboratory tests prove' is 10 times better than 'Brand Y.' There is no doubt that meretricious advertising produces economic banditry. It is also said that this chicanery is practiced by amoral individuals. But that is not entirely true; it is also fostered by individuals who do not have the simple intelligence to realize that by their excesses they work against their own interests by calling forth regulatory strictures which will be far greater than the correction of the abuse warrants."

He also stated that we must control the abuses of advertising as well as the wholesale condemnation of advertising by government investigators who have a political axe to grind. Despite the abuses, it is still true that "whatever advances have occurred have been developed by science and that business, spending millions in research and doing it with a profit motive, has paid for them."

His comments on public relations are particularly interesting: It is easy to distort leadership by calling it manipulation. Selling an idea is manipulating others, by the use of leadership. Even a Sunday sermon is a manipulation; it attempts to win over its hearers to a particular way of thinking.

Summing up, Dr. Di Cyan noted that the person who reads critically, who thinks, need not fear manipulation or leadership. But the person who does not "will be swallowed up in confusion, hopelessly passive confusion."

How Much is Enough

Whenever advertising copy writers get together, they almost always end up discussing how much copy is enough to sell a particular product. If an artist is present, he will usually announce that copy isn't very important, it's the picture that stops the reader—or the graphics.

In the pharmaceutical field, the length of advertising copy has always been of great importance. "Can you afford not to tell the complete story about a drug?" is always asked by copy-oriented people when faced with an art director who insists that, in order to use his picture, the number of words be reduced.

In my experience, copy writers are often correct in insisting that the full story on a product be used. Even for a medical journal, the words required are as many as will tell the important facts.

The advertising masterpiece that wins in an art directors' show is often the least informative one. To this writer, the chief criterion for all advertising is "Did you tell enough to sell?" The word is vastly more important than the picture. Of course, if you want the words read, you must stop the reader with something. But an effective headline using well-chosen words will often do the trick. A good picture and a good line of copy to start the reader off takes care of that.

The most important single aspect of the words used to describe a product is whether they impel the reader to purchase. Those that merely make the reader aware of a product are not good enough.

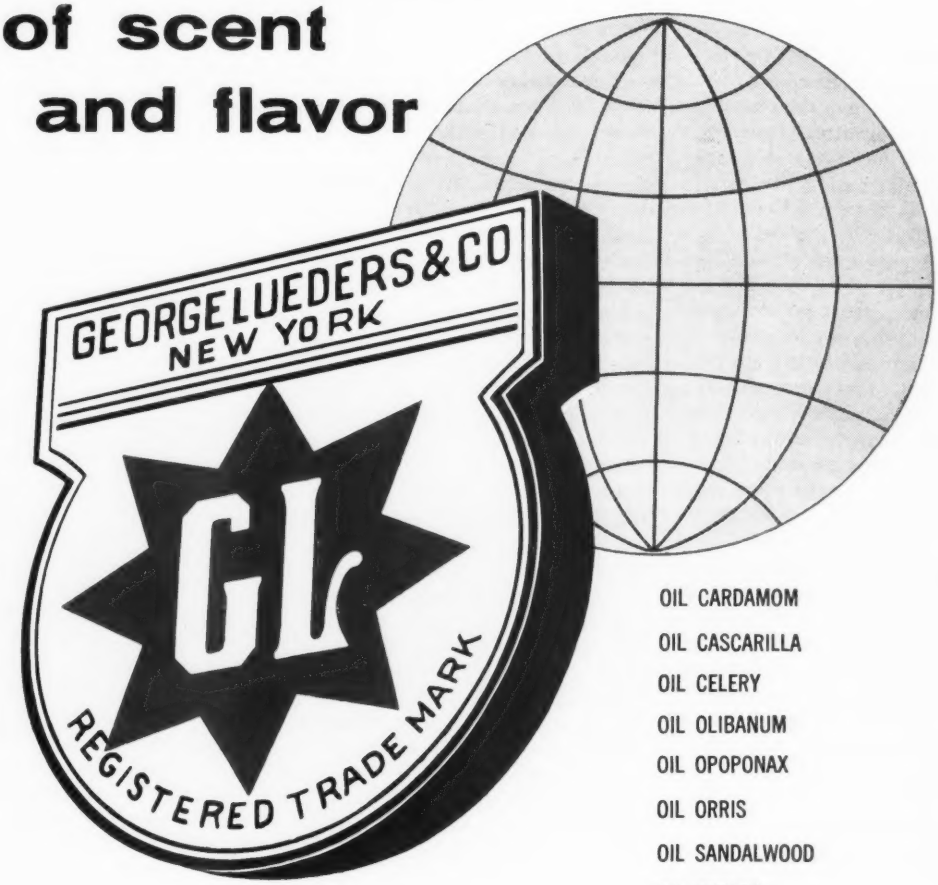
Unless you operate a retail store where you advertise one day to sell merchandise the next, it is difficult to choose words that will mean what you want them to. If you have salesmen as well as advertising, it is then doubly difficult to know which sales are a result of your ads and which are due to the men.

The coupon offer is one way to test the effectiveness of an ad. Returned coupons give some sign as to the audience reached. For a fair test, it is important that the coupon offer the same thing (a new catalog for example), but that the artwork and/or the copy be different.

Getting back to our basic question as to how much advertising copy is enough, there is no easy answer. A good place to start is to decide how many words are needed to tell the product story adequately. There are no rules for copy length. In many instances, long copy in small print has outpulled far shorter ads for the same product. It isn't the length, it's the way it's said that sells.

*Paul Klemtner & Co., Inc.

At your fingertips . . . a world of scent and flavor



OIL CARDAMOM
OIL CASCARILLA
OIL CELERY
OIL OLIBANUM
OIL OPOPONAX
OIL ORRIS
OIL SANDALWOOD
OIL STYRAX

GEORGE LUEDERS & CO., Incorporated

ESTABLISHED 1885

427-429 Washington Street, New York 13, N. Y.

CHICAGO • SAN FRANCISCO • MONTREAL

Factory: Patchogue, Long Island

Representatives: Waukesha, Wis. Shreveport, La. Old Saybrook, Conn. Toronto

Patent thoughts and trends

BY THOMAS CIFELLI, JR., PATENT ATTORNEY*

Misuse of Patents

It often comes as a distinct surprise to business people and other laymen to learn that simply having a patent does not give one the right to exploit that patent in *any* way that one may deem expedient.

Indeed, at the turn of the century, patentees were permitted a tremendous amount of leeway in this connection, but, beginning in about 1917, the U. S. Supreme Court reversed its field and, until 1952 when the present patent act was passed, a series of decisions whittling away at the rights of patent owners was issued. The act in question contains language which indicates that a partial legalization of certain activities previously proscribed has taken place. However, legal matters being what they are and the act actually having been in force only since January 1, 1953, it is not possible today to say with complete certainty just what the exact situation now is. For one thing, there have been only a few lower court decisions, the U. S. Supreme court itself not having had a case in which the effect of the new statute in question was in issue.

Nevertheless, since the matter is of tremendous practical importance it does appear that a review of the situation is in order for the purpose of calling attention to some of the pitfalls that have befallen business men before. Also, it does appear that the intention of the framers of the act presently in force was to enhance the position of the patent owner. Of course, it goes without saying that the purpose here is not to lull the reader into feeling that he can be his own patent lawyer. All with specific problems should have counsel.

A few basic ideas should first be mentioned, before we proceed any further. For one thing, it must be recognized that there is a seeming inconsistency between the patent law and the antitrust laws. The patent law provides for the awarding of legal monopolies. The antitrust laws, on the other hand, encourage competition and are directed against the formation of illegal monopolies of any kind.

Another thing to keep in mind is that, to determine what a patent covers, you must look to the *claims*. If you do, you will find that the claims either cover a composition, a process, an article of manufacture, or a machine. Every word in the claims is important and, in effect, is a restriction of the rights granted by the patent. Thus, let us assume that a patent covers a *process* for carrying out a certain reaction utilizing specified ingredients. In such a case the ingredients used in the process are not protected, except as the following remarks may indicate otherwise.

To understand the present discussion it is essential to have an idea of the meaning of contributory infringement. Let us assume that a patent covers a composition of three ingredients. Under the old law, if a competing manufacturer sold ingredient A, knowing that it was going to be used for the purpose of making the patented composition, the manufacturer could be held liable as a contributory infringer. He was not a direct infringer because he did not make the patented composition. However, he did contribute to the infringement and the courts so ruled.

Patent Rights of The Old Days Are Apparently Gone Forever

Before the full impact of the first antitrust statute—the so-called Sherman Act—was felt, the U. S. Supreme Court ruled that it was perfectly valid for a patent license to provide that the licensee of a patented machine had to purchase from the licensor unpatented parts, for example, fasteners used in the machine. In fact, the court even stated that, whoever sold fasteners to the licensee knowing that they were to be used in the machine in violation of the license, was guilty of contributory infringement.

The fastener case was followed in 1912 by the Supreme Court's upholding a so-called "tying" agreement restricting the use of a patented device to certain unpatented ink to be furnished by the patentee.

Congress in 1914 then enacted the Clayton Act, prohibiting the making of such tying agreements whether involving patented or unpatented articles, where the effect of the arrangement may be substantially to lessen competition or tend to create a monopoly.

The Era of Adverse Court Rulings

This era began in 1917 in the well-known case referred to as the Motion Pictures Case. In this case the Supreme Court ruled that the patent owner could not require the use of unpatented materials necessary for the operation of the patented machine.

In 1931, a very important case was cited by the Supreme Court; it held that the owner of a patent on a particular kind of package containing solid carbon dioxide in a new combination could not exact as a condition in a patent license that unpatented carbon dioxide used in connection with the invention should be purchased only from the licensor. The court pointed out that the limited patent monopoly to make, use, and sell an article may not be expanded by limitations as to the materials and supplies necessary to the operation of it. The court stated that to permit the patent owner to derive its profit not from the invention on which the law gives a monopoly but from the *unpatented* supplies is wholly outside the scope of the patent monopoly.

In 1938, the rule of the foregoing case was expanded to a process patent. In that case, the plaintiff, the Barber Company, owned a patent on the process of coating concrete with an emulsion to prevent evaporation during curing. It granted no licenses

*Richards and Cifelli, Newark 2, New Jersey

for the use of the patent, but an implied license was given when the unpatented emulsion was purchased from the patentee.

As the court struck down these various schemes, patent owners attempted to invent modifications to circumvent the application of the adverse rulings. However, as a brief review of just a few of the modified schemes tried will show, these new schemes were not successful in their purpose.

One modification extends from the above noted Barber-owned patent. The modification gave contractors who desired to use the patent a license in two ways, either by purchasing an emulsion manufactured by Barber, in which case a two cents per gallon royalty charge was included in the selling price of the emulsion, or by purchasing it from outsiders and paying a royalty to Barber's licensee at the rate of one cent per yard of concrete coated. Under the latter method, the contractor would have to pay greater royalties if he economized by spreading the emulsion thin. By purchasing the Barber emulsion, his royalty payments would remain constant, regardless of the thickness of the coating. This case did not reach the Supreme Court, but was decided by the prestigious U. S. Court of Appeals for the Second Circuit, which held that the licensing plan was invalid as offering the contractors no real choice, since they would be forced to purchase the Barber emulsion in order to protect themselves competitively.

The case that more or less sealed the coffin on contributory infringement is the one referred to by patent lawyers as the Mercoid case. This involved a licensing agreement between the owner of a combination patent and manufacturers of switches used in the patent. The owner of the patent did not manufacture the combination, but licensed other companies to make switches and use them to produce the patented combination. Royalties were based on the sale of the combination. Even though the court found that the switches did not have any substantial noninfringing use, the Supreme Court held that the owner of a patent on a combination device cannot use the patent to control the sale of unpatented parts of the combination.

In its opinion in the Mercoid case, the Supreme Court through Mr. Justice Douglas who wrote the main opinion, gave voice to some language that made patent owners and patent lawyers very unhappy:

"The result of this decision, together with those which have preceded it, is to limit substantially the doctrine of contributory infringement. What residuum may be left we need not stop to consider. It is sufficient to say that in whatever posture the issue may be tendered courts of equity will withhold relief where the patentee and those claiming under him are using the patent privilege contrary to the public interest."

The Patent Act of 1952

It is quite obvious that the posture of the law as left by the Mercoid decision in 1944 was most distressing to patent owners. The Patent Act of 1952 attempted to restore part of the rights previously held by patent owners, which had been whittled away, as already described. The pertinent provisions of the act are in section 271, sub-sections (c) and (d), as follows:

"(c) Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

"(d) No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement."

Decision After Patent Act of 1952

As already indicated, only a few cases have been handed down even by the lower courts on this point since the effective date of the 1952 Act. A few of the cases do not appear to have shown a more liberal view of the patent owners' rights. However, a closer look at these cases will show their decisions were proper, even giving Section 271 (c) and (d) full weight.

In one case, involving Dr. Salsbury's Laboratories, it was ruled that a patent on an aqueous solution containing staple powder is misused where the patent does not grant licenses and does not sell the patented solution but sells the unpatented powder with directions for mixing it with water.

In coming to its decision, the court pointed out that the act required that the unpatented component should not be a "staple article or commodity of commerce suitable for substantial non-infringing use." The court said that this exceptive clause was controlling and since the unpatented article before it (that is, the powder) was a staple commodity which did not lose its identity the act did not apply.

In a case involving Crown Zellerbach, a license that provided that unpatented paper towels were to be used in the patented cabinets was ruled to be illegal. In this case the paper towels were found to be staple articles of commerce.

The third case involved a patent covering a process utilizing unpatented foam stabilizers. These stabilizers were apparently staple products capable of substantial noninfringing uses. The court ruled that, while it is proper to grant licenses and determine royalties through the sale of unpatented materials used in connection with the patent, it is misuse where a license can be obtained only by purchasing the unpatented materials from the person granting the license or when, given the choice of purchasing foam from the patentee or another, the royalty to be paid in the latter situation is so much higher, the licensee is given only a Hobson's choice.

In a case decided in February 1953, less than two months after the 1952 Act went into effect, a South Carolina Federal Court ruled that there was nothing illegal in exploit-

(*Continued on page 111*)

ROCHE
VITAMIN E
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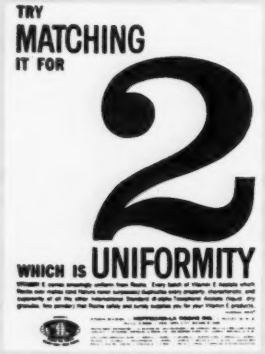

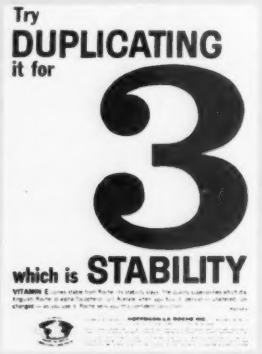

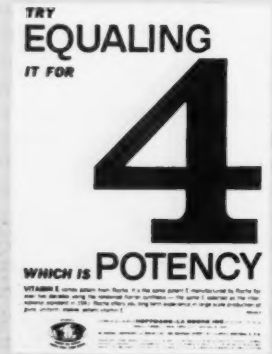

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Thomas R. Farrell, editor of DCI for 33 years until last month, flanked by two members of the staff at the editor's desk.

NEWS...

Thomas R. Farrell Retires

Thomas R. Farrell, for 33 years editor of DRUG and COSMETIC INDUSTRY as well as vice-president and secretary of the publishing company, Drug Markets, Inc., retired at the end of 1960. He is now living in Ireland with his family, and his new occupation will be that of an Irish squire.

Tom Farrell, in his years in the cosmetic and drug industries, displayed a talent for friendship to individuals and a willingness to cooperate in association activities that were deeply appreciated.

In the words of his new residence, Sonas Agus An t-Adh Leat!

Appointments and Promotions

Walter N. Plaut has been elected president and chief executive officer of Lehn & Fink Products Corporation, succeeding his father, Dr. Edward Plaut, who continues as a director. Mr. Plaut has been administrative vice-president and a director of the firm. **Edgar W. Nelson,** general manager of the Lehn & Fink Division, has been made director of marketing for the corporation, to coordinate the marketing activities of all consumer products. And **D. J. Olsen,** who had been manager of production control, has become assistant general manager for the corporation.

The American Cyanamid Company has appointed three division general managers and assigned operational responsibilities to five recently elected vice-presidents. The appointments, all former assistant general managers of their respective divisions, are **Neil B. Conley,** Organic Chemicals Division; **Philip G. Connell, Jr.,** Pigments Division; and **Thomas P. Turchan,** Industrial Chemicals Division. Among the vice-presidents, **Lyman C. Duncan** has been given operational responsibilities for Lederle Laboratories and Surgical Products Divisions; **John Allegaert** for Pigments and Industrial Chemicals Divisions; and **Daniel J. O'Connor, Jr.,** for Plastics and Resins Division and Formica Corporation. Mr. Duncan continues as general manager of the Lederle Laboratories Division.

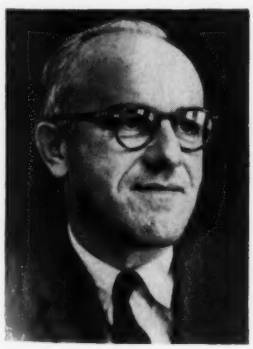
Three administrative executives for the recently created Research and Commercial Development Department at General Aniline & Film Corporation have been appointed: **Dr. Charles F. Jelinek** as manager of the group's Central Research Laboratory at Easton, Penna.; **Dr. Cecil M. Knowles** as manager of commercial development; and **Thomas D. Mutaffis** as manager of research and engineering. Dr. Jelinek had been manager of new fields research at the Easton laboratory; Dr. Knowles had been manager of market development with the Dyestuff & Chemical Division; and Mr. Mutaffis was formerly manager of the chemical engineering section.

Mallinckrodt Chemical Works has reorganized along divisional lines, creating three new divisions, Industrial, Medicinal, and Nuclear, with marketing, research, and product development activities for each under a vice-president and general manager. **Frederick M. Belmore** is head of the Industrial Division, **John E. Gaston** of the Medicinal Division, and **Dr. Charles D. Harrington** of the Nuclear Division.

Ralph Falk II has been elected chairman of the board of Baxter Laboratories, Inc., to succeed his late father, Dr. Ralph Falk, the company founder. Dr. Falk's widow, **Mrs. Marian Citron Falk,** has been elected a director of the company.

Since 1939, the new chairman has served the company in many positions, first as a production worker. For two years he was plant manager of the Cleveland, Miss., operation. He is administeur of Baxter Laboratories of Belgium, S.A., and most recently he has served as president of Baxter Laboratories of Canada, Ltd.

WALTER N. PLAUT



LYMAN C. DUNCAN

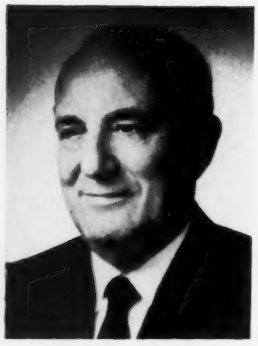
DR. CHARLES F. JELINEK

FREDERICK M. BELMORE

THOMAS M. HARTLEY

ROBERT H. HOH

ERNEST M. WEBER



MARK D. SOROKO

Union Carbide Chemicals Company, Division of Union Carbide Corporation, has appointed **E. E. Husted** as manager of fluorocarbons marketing. He had been sales manager of UCON propellants, in which position he is succeeded by **Thomas M. Hartley.** Mr. Hartley has served for the last two years as sales manager of UCON refrigerants. The division has also named **John R. Hulten** as manager of specialty chemicals marketing. He had been manager of fluorocarbons marketing.

Strong Cobb Arner Inc., has appointed **Robert H. Hoh** central regional sales manager. He had been western regional sales manager.

Dr. Jasper H. Kane, vice-president in charge of research and development for Chas. Pfizer & Co., Inc., has been elected vice-president for scientific affairs. He is succeeded as head of research and development by **Dr. Ernest M. Weber.** Dr. Kane, a member of the board of directors since 1949, joined Pfizer in 1918. Dr. Weber began with the company as a research biochemist in 1942.

Revlon, Inc., has named **Mark D. Soroko** senior vice-president. Mr. Soroko has been a Revlon vice-president for ten years. **William D. Heller,** vice-president and treasurer of Revlon International, has been appointed executive vice-president and general manager of the international corporation.

Richard P. Pearson has been named assistant sales manager of the Aerosol Division of The Risdon Manufacturing Company. He had been assistant sales manager of the Wire Goods Division.

Andrew D. Davey has joined the sales organization of Fritzsche Brothers, Inc., as manager of the Boston office. He will cover a major part of New England. He has served in sales work in chemicals, botanicals and related products for ten years.

The Hazel-Atlas Glass Division of Continental Can Company has named **Harry J. Mullany** general manager of manufacturing. With 24 years of experience in glass container manufacturing, Mr. Mullany has been most recently vice-president in charge of this operation for the Thatcher Glass Company.

C. Lee Huyck, Ph.D., has joined the Scientific Information Division of The Norwich Pharmacal Company as senior information scientist. Dr. Huyck had been professor of industrial and manufacturing pharmacy, St. Louis College of Pharmacy.

Mead Johnson & Company has created three autonomous operating divisions in a broad corporate reorganization: Mead Johnson Laboratories, to create and market nutritional and pharmaceutical products; Edward Dalton Company, to create and market special-purpose nutritional products; and Mead Johnson International, to direct and develop the corporation's international operations, now functioning in 85 countries. In connection with the reorganization, a number of new appointments have been announced. **Lambert D. Johnson, Jr.,** former vice-president and general manager of Mead Johnson International, and **Dr. W. D. Snively, Jr.,** formerly vice-president and medical director, have joined executive vice-presidents Harol O. McCutchan, Robert E. Sessions and Paul W. Torrington at the highest management level. **Albert R. Wayne,** formerly vice-president of the international division, has become president of that division. **Robert E. Sessions,** executive vice-president, is now president of the Edward Dalton Company, which will market Metrecal along with his

RICHARD P. PEARSON

ANDREW D. DAVEY

HARRY J. MULLANY

C. LEE HUYCK

EUGENE P. GRISANTI

MARGIT VANYUR

SEYMOUR MOLBEGOTT

WARREN B. DENNIS

duties as corporate executive vice-president. Also in the Dalton Company, **C. Joseph Genster,** formerly general manager of the Metrecal Division, is now vice-president of marketing; **Orville P. Nuffer,** former vice-president and general manager of the Pablum Division, is vice-president in charge of Pablum-BiB and new products; and **Lloyd L. Duke,** director of the design department, is now director of creative services and design for Dalton. **John T. McLoughlin,** vice-president and general manager of the Nutritional and Pharmaceutical Division, is now president of Mead Johnson Laboratories. At the Mead Johnson Research Center, **Dr. Richard T. Arnold** is now vice-president of research and **Dr. James M. Tuholski** vice-president of product development. Dr. Arnold had been director of research, and Dr. Tuholski director of product development in the Research Division. Finally, **Dr. Louis F. Rittelmeyer, Jr.,** medical director of the Nutritional and Pharmaceutical Division, is now vice-president and medical director of Mead Johnson & Company. He will direct the corporate medical department and also serve as medical director of Mead Johnson Laboratories.

International Flavors & Fragrances Inc. has appointed **Eugene P. Grisanti,** formerly with the law firm of Fulton, Walter & Duncombe, as attorney general.

Dr. Margit Vanyur has joined Old Empire Laboratory staff, in charge of quality control of the pharmaceutical department. Dr. Vanyur has served in laboratories in hospitals and pharmaceutical houses as an analytical chemist and a biochemist. Since 1955 she had been with Standard Drug Inc. as an analytical chemist in charge of quality control of pharmaceuticals.

The Pepsodent Division of Lever Brothers Company has promoted **Seymour Molbegott** to product manager for Pepsodent and Life Line toothbrushes.

Eugene Anschel, who joined Chemway Corporation in 1957 as head of the firm's International Division, has been appointed vice-president. He continues as vice-president and general manager of the division. **Warren B. Dennis,** formerly director of product development for the Lady Esther Division, is now general manager of the Chicago facilities of the corporation.

Witco Chemical Company, Inc., has promoted **Rudolph Cubicciotti** from vice-president of Witco's subsidiary, Sonneborn Chemical and Refining Corporation, to the position of administrative vice-president of the parent firm.

Dr. F. Douglas Lawrason, Dean of the university of Arkansas Medical School, has been appointed executive medical director of Merck & Company, Inc. He will be responsible for all medical activities, including clinical research and evaluation of drugs.

In a reorganization to simplify marketing operations, Ciba Pharmaceutical Products Inc. has appointed three marketing directors, and directors of marketing services and animal health, all directly responsible to Paul W. Roder, vice-president in charge of marketing. They are **Alfred W. Custer,** marketing services; **Frank Pratt,** western and southwestern regions; **Douglas E. Ward,** central and middle Atlantic regions; **Albert J. Weisbrodt,** eastern and southeastern regions; and **Allan J. Leskinen,** animal health.

Raymond O. Clutter, with Eli Lilly and Company since 1946, has been elected vice-president, general counsel, and a director of the International Corporation, and a director of the Eli Lilly Pan-American Corporation. **Royce H. Coulson** has become manager of the firm's Calumet district, succeeding **Maurice F. McCameron,** now in the home office. New manager of the Brooklyn, N. Y., district is **Bernard H. Horvitz,** a salesman for Lilly for 14 years.

Aglae Gates Winspear has been named executive vice-president of Pfaltz & Bauer, Inc., succeeding Margaret M. Coleman, who has resigned both that position and that of manager of the Chemical Division. **Charles Rawson** is now secretary of the corporation, manager of the Chemical Division, and manager of the Essential Oil Division.

Walter Dugan, vice-president of Welch, Holme & Clark Company, Inc., has been named general manager of the company.

Leonard V. Colson, vice-president of Pharmacraft Laboratories, has become director of marketing of the J. B. Williams Company's Toiletries Division.

Robert W. Johnson, executive vice-president of marketing and a member of the executive committee of the board of directors, has been named president of Johnson & Johnson, to succeed George F. Smith, who has retired. The grandson of the firm's founder, Mr. Johnson has been with the company since 1940, and has held a number of positions.

Winthrop Laboratories has appointed **Charles K. McMillan,** assistant manager of the Atlanta branch unit, as manager of branch operations, to succeed the late Robert A. Jarecki.

Dr. Christopher H. Demos has been appointed director of clinical research for Syntex Laboratories, Inc. Dr. Demos had been assistant director of professional services and associate director of medical research at Lederle Laboratories.

Malcolm S. MacGruer, former sales manager of Extruded Plastics, Inc., has been named merchandising manager of Vick Chemical Company, and **Henry H. Jessup, Jr.,** has been advanced from assistant sales promotion manager to sales promotion manager for Vick Chemical Company. Both companies are operating divisions of Richardson-Merrell Inc.

W. C. Sugg, assistant director of marketing staff services, has been named director of domestic branch sales for The Upjohn Company, succeeding **W. G. Freeman,** who has retired. **J. J. Canon,** who has been director of marketing staff services, has also retired. His responsibilities will be divided between **H. H. McDade,** now product promotion manager, and **A. B. Huellmantel,** now manager, marketing staff administration.

Delmont J. Lohuis has been named assistant to the vice-president in charge of corporate research, machinery development, and new products for American Can Company. He had been director of research of Canco's Illinois laboratory. He is succeeded by **Dr. Orval R. Alexander,** who is succeeded by **Ralph W. Kaercher,** now manager of paper and plastics section.

Atlas Powder Company has transferred **Harry B. Paul** from manager of the chemicals sales department's Wilmington region to manager of overseas operations, with offices in Essen, Germany. **Joseph J. Byrne,** who has been assistant to the field sales manager, is now manager of the Wilmington region, succeeding **E. Joseph Costell,** who has taken Mr. Byrne's place as assistant to the field sales manager.

The Dow Chemical Company has advanced **Dr. Thomas Gillespie** to the rank of associate scientist, in recognition of his work in latex rheology, plasticol rheology, and surface treatment of pigment.

Richard K. Hartmen has been promoted from assistant product manager. to assistant advertising manager for Pharmacraft Laboratories.

Premier Mill Corporation has appointed **Sidney A. Lewis** general manager. He had been marketing manager with Walworth Company.

Philip Chaleyer, perfumer and expert in aromatic products, has been appointed consultant by Rhodia, Inc. Operating from his own laboratory, Mr. Chaleyer will develop fragrances, and also serve as an advisor on research and development of products. He is currently also retained by Hoffmann-La Roche, Inc.

Frederick D. Empkie has been named sales manager, national accounts-midwest, for Container Corporation of America's folding carton division. He is succeeded as general sales manager of the Chicago folding carton division by **William E. Mastbaum,** formerly sales manager of the Solon, Ohio, carton plant.

Allen Cogdell has been appointed manager of National Can Corporation's plant, Vancouver, Washington.

The Purepac Drug Company has named **Harry H. Shultz** vice-president of the company. He had been national field sales manager. The firm's comptroller, **Sam Rudell,** has been elected company secretary.

Abbott Laboratories has promoted **I. D. Harvey** from manager of central division sales to assistant director of sales in charge of the central field sales area. Other promotions include: **Laverne T. Olmstead,** central division sales manager and manager of the Chicago branch; **Elwood W. Woodling,** manager of a district with headquarters in Toledo, Ohio; **Anthony E. Celuzza,** manager of a district out of Providence, R. I.; and **Alfred J. Panella,** manager of a district at White Plains, N. Y. Abbott has also promoted the following to the position of district manager: **Milton J. Henrichs,** the Illinois-Iowa district; **H. Bruce Hunter,** the Ontario, Canada, district; and **Harry J. Kohl,** the Minnesota district. **William E. McGlone,** is now branch supervisor at Los Angeles.

C.S.M.A. Elects Beach

Charles E. Beach, president, Stalfort Presure-Pak Company, was elected president of the Chemical Specialties Manufacturers Association for 1961, at the recent annual meeting.

CHARLES E. BEACH

Other officers are Charles E. Allerdice, Jr., The Bell Company, first vice-president; Donald J. Templeton, Stanley Home Products, second vice-president; Frederick G. Lodes, Lodes Aerosol Consultants, treasurer; and Alfred A. Mulliken, secretary.

IRA P. MacNAIR

During the meeting, Ira P. MacNair, president, MacNair-Dorland Company, recived the 1960 Achievement Award of the association, in recognition of his work for and contributions to the chemical specialties industry.

Philip Chaleyer, who has recently been appointed by Rhodia, Inc., as a perfume consultant.

The A. H. Robins de Mexico, S.A. de C.V., building in Mexico City. The company is a new subsidiary of A. H. Robins Co., Inc., of Virginia.

A. H. Robins Expands

The A. H. Robins Co., Inc., has added a new subsidiary, A. H. Robins de Mexico, S.A. de C.V., located near the University of Mexico campus in Mexico City.

Robins has also completed a new, million-dollar plant in Montreal, Canada. Both plants have chemical research and quality control laboratories, and will manufacture and package tablets, capsules, and liquids.

Coutin Moves

Coutin Associates, essential oil and compound distributioners, will move to new and larger quarters at 381 Park Avenue South, New York City, on February first.

Kremers Lecturer Announced

The Kremers Memorial lecturer is to be Dr. Lloyd M. Parks, Dean of the Ohio State University School of Pharmacy. The University of Wisconsin chapter (Eta) of Rho Chi National Pharmacy Honor Society annually sponsors this lecture, to be given on April 12th, in memory of the School's second (1892-1935) and pioneering head, Edward Kremers.

Wyeth Grants

An unrestricted grant of $5000 has been awarded to the University of Pennsylvania by Wyeth Laboratories for independent medical research. It was presented to Dr. Francis C. Wood, chairman of the University's Department of Medicine.

In addition, the medical departments of the following institutions received Wyeth grants: Univ. of Arkansas; Univ. of Buffalo; Bryn Mawr Hospital; Univ. of Cincinnati; Univ. of Colorado; Dartmouth College; Univ. of Florida: Univ. of Kentucky; Marquette Univ.; New York Univ.; Ohio State Univ.; Univ. of Oklahoma; Univ. of Oregon; Univ. of St. Louis; U.C.L.A.; Medical College of Virginia; Univ. of West Virginia; and Univ. of Wisc.

International S.C.C.

In an address before the California Chapter of the American Society of Cosmetic Chemists, H. J. Amsterdam, president, reported on the newly formed International Federation of Societies of Cosmetic Chemists.

There are now ten autonomous national societies, including the United States, England, France, Italy and Germany. The Federation, chartered in 1960, provides for world-wide exchange of information and encouragement of research in the cosmetic sciences.

Production in the West Indies

The Federated Pharmaceuticals Company of Kingston, Jamaica, the first of its kind in the West Indies, is now producing—under the supervision of the original production manager, Emanuel Rose, who designed the plant, and trained the personnel—over 21 items under its label, in addition to a line of antibiotics for Lepetit of Milan, Italy.

Snapped during the installation of officers for 1961 of the New York Chapter of the Society of Cosmetic Chemists (left to right): Dr. Martin Katz, chairman-elect; Agnes Korte, secretary; Dr. Saul Bell, chairman; Robert J. Schiraldi, treasurer; and H. J. Amsterdam, who officiated.

New officers of the Chicago Chapter of the Society of Cosmetic Chemists: (front) Lura S. Rickets, Toni, secretary; W. H. Walker, Fuller, chairman; (back) S. R. Goff, Toni, chairman-elect; and W. D. Ackley, I.F.F., treasurer.

Riegel's New Department

Riegel Paper Corp. has a new department for Folding Carton Sales. Jack E. Hutchinson has been appointed manager.

Helfrich Elected President

The Chicago Perfumery, Soap and Extract Association has elected the following 1961 officers: president, John P. Helfrich, Helfrich Laboratories, Inc.; vice-president, Jack W. Baldwin, Hazel-Atlas Glass; secretary, Harold W. Jelly, Walter H. Jelly & Co., Inc.; treasurer, George C. Kolar, Kolar Laboratories, Inc.

Redesigned Filling Line

The Pressure-Pak division of John C. Stalfort & Sons, Inc., has completed a redesigned high-speed processing and filling line for producers of perfumes and colognes using aerosol containers. The new line can fill a customer's product in the container shape and size desired, using the filling method best designed to preserve the quality and character of the individual perfume or cologne.

Rita Reilly Joins Fritzsche Quarter-Century Club

Rita Reilly, a member of the secretarial staff of Fritzsche Brothers, Inc., was recently honored with a luncheon at New York's Charles Restaurant, as the ninety-first employee admitted to the firm's Quarter-Century Club.

Miss Reilly was presented with a Government bond and a scroll.

Brouse Joins Proprietary Assoc.

J. Robert Brouse, formerly with Affiliated Merchants Association of Minn., has joined the Proprietary Association as executive assistant.

If you produce hair colorants or bleaches, Becco can help improve your product!

WE NEED hardly tell you about Becco Hydrogen Peroxide—Becco has long been almost synonymous with this product. But, perhaps you did not know that Becco is also a prime supplier of such bleaches as Ammonium and Potassium Persulfate, Sodium Pyrophosphate Peroxide, and Urea Peroxide. Moreover, we have a wealth of data available to help you use these Becco bleaching agents to improve your products.

We've listed some of our Technical Booklets below. They're free for the asking. Simply mail the coupon or write on your letterhead. Also, feel free to consult with Becco on any problems you have regarding active oxygen. We'll be as helpfu' as we can, and there's never any obligation. Address: Dept. DCI-26.

For preparing dilute solutions—
H_2O_2 Formula D—Bulletin No. 42.

Where more thorough bleaching is required—
Ammonium Persulfate—Bulletin No. 49; Potassium Persulfate—Bulletin No. 11.

For bleaching operations which require alkalinity with good stability—
Sodium Pyrophosphate Peroxide—Bulletin No. 8.

As a source of water-free H_2O_2—
Urea Peroxide—Bulletin No. 10.

BECCO fmc

Becco Chemical Division, FMC
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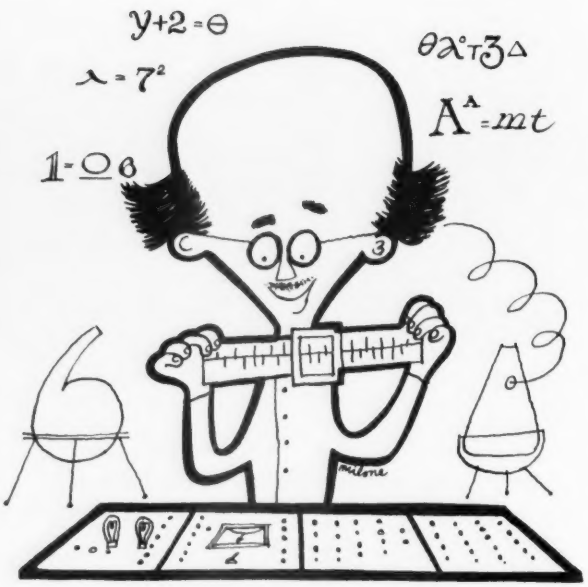

NO MATTER HOW YOU FIGURE IT

Your formula had better be right.

And no matter how good your formula is, don't you still need the best possible dosage form? One that is precise and stable, practical and attractive?

How about you and us getting together one of these days to discuss your formula and our Soft Gelatin Capsules? Maybe they deserve each other.

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New York: *phone*—PLaza 9-5880

Encapsulations Inc.
288 Chestnut St., Newark 5, N.J.
GELATIN CAPSULE MANUFACTURERS

Anchor Hocking Glass Corporation

Maywood Glass Co., a subsidiary of Anchor Hocking Glass Corp. has been merged into the parent company. A new Western Division has been organized to manage Anchor Hocking's glass container and closure operations in the western states.

New Company in Australia

National Starch and Chemical Corp. and Jordan Chemical Works have joined to form Jordan-National Co., with manufacturing facilities and executive offices in Sydney, Australia.

New Custom Packaging Firm

Universal Packaging, Inc., has been formed in Plainfield, Ind., to handle custom and creative packaging for U. S. and Canadian manufacturers. The firm will specialize in packaging of liquids, semi-liquids, and solids in all heat-sealable, flexible materials. Services will include custom package design and engineering and drop shipments by air, rail, or truck.

Mangel Company Merges

A merger of the Mangel Company into Container Corp. of America has been approved on the basis of an exchange of two shares of Container's common stock for each share of Mangel common.

New Pharmaceutical Firm

Parke, Davis & Company and Sankyo Kabushiki Kaisha have announced the formation of a partnership with the establishment of a new firm, Parke, Davis & Sankyo Kabushiki Kaisha, in Tokyo, Japan. Operations have begun, with an initial capital of 35 million yen, comprising 7,000 shares of stock.

Dr. Jokichi Takamine, who isolated adrenalin while with Parke, Davis, is one of the founders of Sankyo, along with Harry Loynd, Parke, Davis president, and Manpei Suzuki, Sankyo president.

Arthur C. Emelin, president of Wallerstein Company (center), discussing enzyme fermentation with some of the 34 members of the Society of Pharmacists in Industry visiting the plant.

New Company

Smith Kline & French Laboratories has announced the formation of a new German company, Rohm & Haas Pharma G.m.b.H., jointly with Rohm & Haas G.m.b.H., Darmstadt, West-German chemical and plastics manufacturer.

The new company will take over the existing pharmaceutical business of Rohm & Haas, Darmstadt, and the sale and manufacture of SK&F products in Germany and Austria.

Popper & Sons Inc. Expands

Popper & Sons, Inc. has purchased the controlling interest in Everett Products Inc. of Providence, R. I., manufacturers of hypodermic and dental needles.

Lowenstein Enters New Fields

Jos. H. Lowenstein & Sons, Inc., manufacturers of chemicals and fur dyes, plans a new laboratory for further research in cosmetic specialties and hair coloring, and the manufacturing facilities for their production.

New officers of the Chicago Perfumery, Soap and Extract Assn., (l. to r.): Harold W. Jelly, secretary; John P. Helfrich, president; Jack W. Baldwin, vice-president; George C. Kolar, treasurer.

Snell's Sperling Labs Moved

Sperling Laboratories Div. of Foster D. Snell, Inc., New York chemical consultants, has moved its facilities from Virginia, to new and expanded quarters at 1500 Guilford Avenue, Baltimore, Md.

Expansions, New Plants And Acquisitions

Hoffmann-La Roche, Inc. will more than double its space by constructing a three-story building and enlarging an existing one-story building to facilitate receiving, manufacturing, and packaging . . . . **Lermer Plastics, Inc.** has acquired, adjacent to its present plant, 25,000 additional square feet of manufacturing space, in order to double production facilities. A substantial part of the new building will be devoted to new products . . . . **Glass Container Plant, Division of Armstrong Cork Company** plans to increase manufacturing capacity by a major expansion program, including the rebuilding of two glass furnaces to gain a 40 per cent capacity increase for each . . . . **Markem (U.K.) Limited** has opened a sales and service office in Welwyn Garden City, England, offering technical assistance, plus the integrated line of powered marking machines, type, and specialty inks made by Markem Machine Company in Keene, N. H. . . . . **Syntex Corp.** will market its hormone specialty products in France for the first time, under an agreement with Les Laboratoires Cassenne of Paris . . . . **Thatcher Glass Manufacturing Co.** has announced a $1,200,000 expansion program for its Muscatine, Iowa plant designed to triple the company's production of

vinyl, polyethylene, and polypropelene plastic squeeze tubes in the Celon closure division and plastic tube division. . . . . **Pressure-Pak, Division of John C. Stalfort & Sons, Inc.** has completed a redesigned high-speed, aerosol filling line . . . . **Duval Industries, Inc.,** has consolidated all of its manufacturing facilities in its recently completed plant at Winthrop, Mass. . . . . **Colgate-Palmolive Company** has started construction of a multi-million dollar, two-story research center that will cover more than 200,000 square feet, with provision for future expansion . . . . **Sun Chemical Corp.'s Ansbacher-Siegle Division** has acquired a plant on a six-acre site near the Newark Airport for use in manufacturing pigments and pigment intermediates . . . . **Commercial Solvents Corp.** has announced the acquisition of 80 per cent of the ownership of two Italian pharmaceutical companies, Hoffmann-Lampis S.p.A., and Fiart S.p.A.; and the formation of an international subsidiary to handle its expanding foreign operations . . . . **Robinson Wagner Company** plans to erect additional plant facilities, estimated to cost $170,000, for the production of new lanolin derivatives . . . . **American Hospital Supply Corp.** will establish a regional sales and distribution center in the Detroit metropolitan area . . . . **Bioferm Corp.** will become a part of **International Minerals & Chemical Corp.** . . . . **United Kingdom of Winthrop Group Ltd.** has been formed as a major subsidiary of **Sterling Drug Inc.,** consolidating five Sterling subsidiaries operating in the United Kingdom . . . . **Bemis Bro. Bag Company** has acquired controlling interest in Air-Formed Products Corp., a manufacturer of blow-molded plastics . . . . **Dorothy Lamour, Inc.,** has acquired 50 per cent ownership of Paramount Cosmetics Co. for an undisclosed amount, and has contracted with C. & L. Distributors, Inc., to be exclusive distributors in Maryland.

Fluorinated Hydrocarbons in Mexico

Industrias Quimicas de Mexico, S.A. of Mexico City is forming a new Mexican company, Holacarburos, S.A., to produce Freon fluorinated hydrocarbons for refrigerants, aerosol propellants, solvents and fire extinguishing agents.

This first Mexican production of fluorinated hydrocarbons, which have been imported during the past 15 years, will result in an annual saving of $480,000. All raw materials will be purchased in Mexico.

Dragoco Moves

The General Sales and International Division offices and laboratories of Dragoco, Inc. have been moved to new and larger quarters at King Road, Totowa, New Jersey; telephone—CLifford 6-3850.

Dodge & Olcott Moves

Dodge & Olcott has moved its general offices and laboratories to Manhattan Industrial Center, 75 Ninth Ave., New York City 11.

McNeil Labs. Moves

The first phase of the move of McNeil Laboratories from Philadelphia to Whitemarsh Township, Pa., went into effect in November when the finished stock, shipping, and sample departments began operations in the new plant. Manufacturing, control, and pilot plant operations are scheduled to be shifted in December, and the new administrations and research buildings are expected to be occupied by next spring.

P. I. Joins European Packaging Federation

The Packaging Institute has been welcomed recently as a new associate overseas member in the European Packaging Federation.

Pierre J. Louis of France, general secretary of the E. P. F., noted that the following list of European countries maintain close contact in the Federation: Austria, Belgium, Czechoslovakia, Denmark, Finland, Ireland, Italy, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, and Yugoslavia.

Mead Johnson Research Center

The name of the Mead Johnson Research Division has been changed to the Mead Johnson Research Center, in order to reflect more clearly the center's world-wide activities for the centralized research and development activities.

Smith-Dorsey Changes Name

The Smith-Dorsey Pharmaceutical Co., div. of the Wander Co. has changed its name to Dorsey Laboratories. Changes in packaging and labeling will soon follow

Revlon Sells Pinex

Revlon, Inc. has sold its line of Pinex cough preparations to interests headed by Alfred Roberts of New York City. Financial details of the transaction, which involves the product line, manufacturing equipment, and inventory were not announced.

Pinex products are manufactured in Fort Wayne, Ind. and Toronto, Canada.

J. A. Deimling

Joseph A. Deimling, assistant to the general product manager of the Colgate-Palmolive's Toilet Articles Division, died December 25 after a brief illness. He was 41.

Mr. Deimling joined Colgate-Palmolive in 1953 as assistant promotion and merchandising manager for toilet articles.

Surviving are his widow and four children.

E. A. Daitz

Elliot A. Daitz, who served as counsel and advisor on all tax matters for The Toilet Goods Association, died in December.

Mr. Daitz also prepared many bulletins for the Association.

Three-dimensional sign for Fries & Fries, Cincinnati, designed to attract expressway drivers.

Management Forum

BY FRANCIS CHILSON, Sc.D.
PROFESSIONAL ENGINEER

The Eternal Verities

My approach to factory design problems is predicated on what might be called the eternal *physical* verities that govern all pharmaceutical and cosmetic products. We hear so much about constant changes in products and packages that, unless we stop to think, we are led to believe that new products and packages are always and in every way different. In appearance and in chemical composition they may be, but physically they have changed over the centuries only very little and, in some categories, not at all. Since, in the design of a plant, we are concerned primarily with the physical nature of our products, it is important to keep in mind the nature of these physical categories. They are:

Liquids. From time immemorial, and for all time hence, liquids will not change except in chemical composition. Their physical nature dictates how they may be handled, processed, stored, and packaged. Owing to chemical changes in formulation, corrosion problems will be encountered; hence changes will be made in the construction of liquid production equipment, but the fundamental problems in the design of liquid handling equipment will change but little. Tanks, pumps, piping, filters, agitators, homogenizers in one form or another always were and always will be needed.

Powders. In this category may be included every mesh size from sub-micron to coarse granules. Obviously powders will require different equipment for processing, packaging, and handling from that used for liquids. Like liquids, the composition of powders changes continually, but the characteristic physical form does not. A powder is still a powder regardless of its composition.

Semi-solids. In this category one encounters all manner of ointments, creams, pastes, and gels, all of which have the characteristic of being plastic when cold. Semi-solids to a large degree require special handling, processing, and packaging equipment although, in some instances, when products in this category are hot, they are fluid and therefore amenable to some extent to handling with liquid equipment.

Solids. In a strict physical sense powders are solids, but in this category we think of solids that have been given some form by compression, molding, or extrusion in such a way that the form is retained, for instance, pills, tablets, soft elastic and hard-shell capsules, suppositories, lipsticks. Again the nature of the solid dictates the equipment and the procedure that must be followed in making and packaging it. In this industry there is another ruling factor: solid or pre-formed products have a limited size. A tablet intended to be swallowed whole can never be larger than the human throat will accommodate. The only exceptions to this rule are those tablets that must be dissolved before administration.

So, in the drug and cosmetic industries we must always deal with liquids, powders, semi-solids, and solids, and our factories should be—but usually are not—designed with these categories in mind. This is desirable even when some of the categories are not now made by particular factories. One can never tell what a research department will come up with. It is important to allocate specialized areas initially, even though for a long time these areas may be used for warehousing purposes. In designing the Aspro-Nicholas factory in England, we made provision for what the future might bring, although none of us thought at the time, that within three years we'd be making a lot of things we never dreamed of. Consequently, as new product lines were added, they were accommodated in their proper places without the least confusion or interruption of work.

And, remember, each area should be so located as to be capable of expansion itself, without interference with other areas.

KEEP YOUR POWDER DESERT-DRY WITH LECTRODRYER When you're processing powdered or granular hygroscopic materials, Lectrodryer is the solution to air moisture problems. These machines dry air to dewpoints as low as —110°F. You can choose automatic or manually controlled units, for continuous or intermittent operation. Tell us about your drying problem — we'll advise you how Lectrodryer custom-engineered or standard units can help you. *Write Pittsburgh Lectrodryer Division, McGraw-Edison Company, 309 32nd Street, Pittsburgh 30, Pennsylvania.*

Now let's have a look at packaging. Packages change all the time, within the limits of an overriding rule: all pharmaceutical and cosmetic packages always were and always will be small. We never have shipped, and never will ship pharmaceutical and cosmetic products to ultimate consumers in fifty- or even five-gallon drums, nor will we ever ship tablets in hundred-pound lots to individuals. Packaging materials always have changed, and always will, in materials of construction and in form, but all rigid containers have this in common whether they are made of ceramics, glass, wood, metal, plastics or paper: the empty container occupies almost as much cubic space as the filled one. This obviously dictates warehouse space requirements—the usual ratio being twice as much space for packaging and raw materials as for finished stock. This minimal ratio is based on the necessity of carrying a home inventory of one month's finished stock and two month's stock of packaging materials. A three-to-one ratio is more comfortable, because the finished package may require five or six different kinds of packaging materials, each of which must be kept separate, even though it takes up relatively little space. The exception to the rule, and a reversal of it actually, relates to packages formed on packaging machines from roll foil or paper stock or from collapsible cartons. For such packaging materials, space requirement may be as little as a tenth of that required for finished stock.

In general, about 60 per cent of total factory space will be required for warehousing, receiving, and shipping purposes. In the cosmetic industry, the first expansion demand is for more warehousing space, because this industry is bedeviled by style changes, seasonal shipments, and special deals. In the pharmaceutical industry, the first expansion demand usually is for more processing and packaging space and this, if the layout has been properly done, can usually be pinched initially from the warehousing area. As a matter of fact, it should be because manufacturing space demands are seldom for a large amount of space at one time, unless the management suddenly buys another company that must be fitted in.

At various times in this column I have enumerated these fundamentals. I have described them often in meetings. Yet it is a fact that the layout of most of the new factories I have seen violate most, if not all, of the obvious principles here outlined. I have seen a foreign factory built for one of the largest of our pharmaceutical houses—and engineered by their own staff—which is utterly hopeless from an expansion point of view, both internally and externally. Inside the factory no department can be expanded without removing another. Outside, the factory is hemmed in on all four sides by installations that would be enormously expensive to move or tear down, such as an administration and personnel building, a power house, a tank farm, and a water treating plant. In fact, before the plant was in full operation, it was shown to be too small. And it has no place to grow in an integrated manner. The warehousing area will have to be taken over and a separated warehouse built. Recently in England I saw a new factory built by a big American pharmaceutical company. Can you imagine building, in this day and age, a multiple-story building for general pharmaceutical manufacture? The best that can be said for this job is that it is appalling. And needlessly expensive too.

Organization Plans

An enormous amount of time is being devoted to the study of management. From my point of view, more attention is being given to form than to substance. A lot of so-called experts on management seem to feel that, if you've got a rigid organization chart buttressed by detailed job descriptions for each executive category or function, that's all there is to it. As a result, management tends to become too formalized and rigid. I have always believed in flexible management. I don't believe that areas of authority and responsibility can be tighly compartmentalized into neat little boxes. There is a marginal area between two responsibilities in which there should be some ebb and flow, instead of a sharply defined fence. This is the area of mutual help or cooperation. I like to feel throughout an organization the flow of authority from one man at the top, and this doesn't always flow through rigid channels. In a tightly compartmentalized organization, politics and jealousy are rampant to an excessive degree. Whenever human beings work together, politics are inevitable, and envy and jealousy too, but I have noticed in organizations where there is some give and take between areas of responsibility that the politics are less sharp and vicious.

Management Reciprocal

In knocking around the country as I do, I often hear executives' complaints about the stupidity of decisions made by their top managements. I have known a lot of stupid men in all areas of management. I have known stupid directors and stupid presidents. But I have never known a company president so stupid that he would intentionally issue a directive contrary to his own interests or to the interests of the business.

Usually a stupid directive is motivated by wrong information, slanted information, inadequate information, or no information at all. It is this aspect of management that I call the management reciprocal. If directives are to be sound, they must be based upon accurate, unprejudiced, and comprehensive information. And if Mr. Big is so stupid that he cannot so interpret and correlate this information as to make the right decisions, his immediate associates should do it for him.

One can't always solve the problem by firing Mr. Big. Too often he owns the joint.

Big Boost in Bonadoxin Two-Layer Tablet Production Speed when Chas. Pfizer & Co., Inc. Switched to Colton Presses with Induced Die Feeding*

Greatly increased Bonadoxin Tablet production speed is one of the recent accomplishments of a battery of new Colton No. 241 Double Rotary Presses equipped with Colton's No. 245 Induced Die Feeders.

Chas. Pfizer's bonus gain is the **ELIMINATION OF 40-42 HOURS OF OVERTIME PER MACHINE PER WEEK,** which was necessary with the slower machines these replaced in order to keep pace with Bonadoxin volume demands. And, with present Colton equipment, production can be further substantially increased without overtime.

ELIMINATION OF THE NECESSITY OF GRANULATING THIS PRODUCT was also a bonus gain in time and manufacturing costs. Yet, the first cost in Colton installations such as this is but a fraction of the cost of other equivalent capacity equipment. The explanation is in the unique efficiency of Colton standard presses in combination with Colton Induced Die Feeding.

Other results of Induced Die Feeding, the first basic advance in tableting in 30 years, are:

1. Direct tableting of many materials without granulating and with finer elegance.
2. Uniform density, accurate weight and better disintegration because of using powders instead of granules.
3. Positive die fill at high speeds.
4. Tablet capping and laminating substantially reduced.
5. Practical tableting of 2-layer and 2-color tablets with minor changeover.

Induced Die Feeding is available with any Colton rotary press and can be installed on existing Colton presses in 1 to 2 hours. Your inquiries are invited.

**Patents in process*

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DIVISION OF SNYDER CORPORATION

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Micro-Mill

Gifford-Wood Co., Hudson, New York, has developed a new mill that ruptures large quantities of microorganisms. It will reduce slurries and bacteria, spores, molds, yeast and pollen granules in hopper capacities ranging from 150 ml. to 2 liters. Capacities up to 5 gallons are available; larger sizes can be made to order.

The mill is powered by a 1.5 hp AC-DC motor with speed controls from 0 to 10,000 rpm monitored by a continuously variable transformer. Entire unit is mounted on a stainless steel dolly.

Enclosed Vibrating Conveyor

Cleveland Vibrator Co., 2828 Clinton Ave., Cleveland 13, Ohio, has developed a new totally enclosed air-powered vibrating conveyor, that eliminates contamination and dust when moving bulk materials. It is powered by an air-cushioned vibratory drive. Flow is regulated by an adjustable quick-acting valve. Four coil springs provide support and isolate vibration from surrounding structures.

This model carries aluminum pellets with a density of 65 lbs. per cubic foot from a bin to a blower system at a rate of 20 tons per hour. It is 3 ft. long, has 6-in. diameter conveyor tube, and operates on 10 to 100 lbs. air pressure.

Tablet and Capsule Inspection Unit

Arthur Colton Co., 3400 E. Lafayette, Detroit 7, Mich., has a new high-speed tablet and capsule inspection unit, Model A-1000 Accep-Tron.

The unit can be used to reject coreless, press-coated tablets and empty capsules; separate two or more groups of tablets that have been simultaneously pan-coated; separate placebos from special-formula sample tablets; and recover cores from crushed tablets.

The Accep-Tron is 21½ in. long, 16 in. high and 15 in. deep. It has nonmetallic contact surfaces, visual inspection of internal parts without removing panels, interchangeable feed chutes, a maintenance-free magnetic system and is easily cleaned internally.

Portable Agitator

The Patterson Foundry & Machine Co., East Liverpool, Ohio, has introduced the Wizard, a new portable agitator that delivers speeds of from 250 to 4000 rpm from an explosion-proof, single-speed motor. It produces output speeds over a 9 to 1 range.

Standard features of the Wizard include: a 2 hp, 1750 rpm explosion-proof motor; 1-in. diameter, stainless steel, removable agitator shaft; dispersion disc impeller of patented design; cast aluminum double clamp bracket. Optionals include 4-bolt mounting plate in place of the clamp; quick-release chuck for shaft removal; lower horsepower motors.

Overcapper

Pneumatic Scale Corp. Ltd., Quincy 71, Mass., has developed an Overcap machine consisting of a Sterling Feeder working in conjunction with a straight-line conveyor and power-driven dial for container control.

The Overcapper is fully automatic. Conveyor and star wheel move continuously, pushing containers through cap chute release point. Each container strips off its own lid, or overcap, and then moves under a rubber-faced spring-mounted wheel for proper seating of the closure. A safety device serves to keep containers in "timed" relationship with spider, whether there is a solid line or single container on the conveyor. Unit is rated at speeds of 120 to 200 per minute and may be geared to lower speeds if desired.

Mixer from Holland

J. H. Day Co., Div. of Cleveland Automatic Machine Co., Cincinnati, Ohio, has been granted exclusive license by Nauta Mix N.V. of Haarlem, The Netherlands, to manufacture and sell the Nauta Mixer in the U. S. and Canada.

The mixing action of the Day Nauta mixer is accomplished by a rotating screw positioned along the wall of the conical container. At the same time the screw revolves, it also orbits around the inside wall, resulting in vertical and horizontal cross-currents throughout the mixer. The material is mixed and spiraled upward by the revolving screw, and the orbiting action of the screw moves the material in a large, second spiral. A third mixing action results after the material is lifted by the screw. This is a gravity action causing the material to flow down the side of the cone, opposite the mixing screw. All three actions are simultaneous, with a converging effect at the bottom of the cone. Every particle of material is forced through all three actions to bring about the dispersion of one part in 10,000, and more, within 3 minutes. A 5 hp motor can mix a 4000 lb. batch.

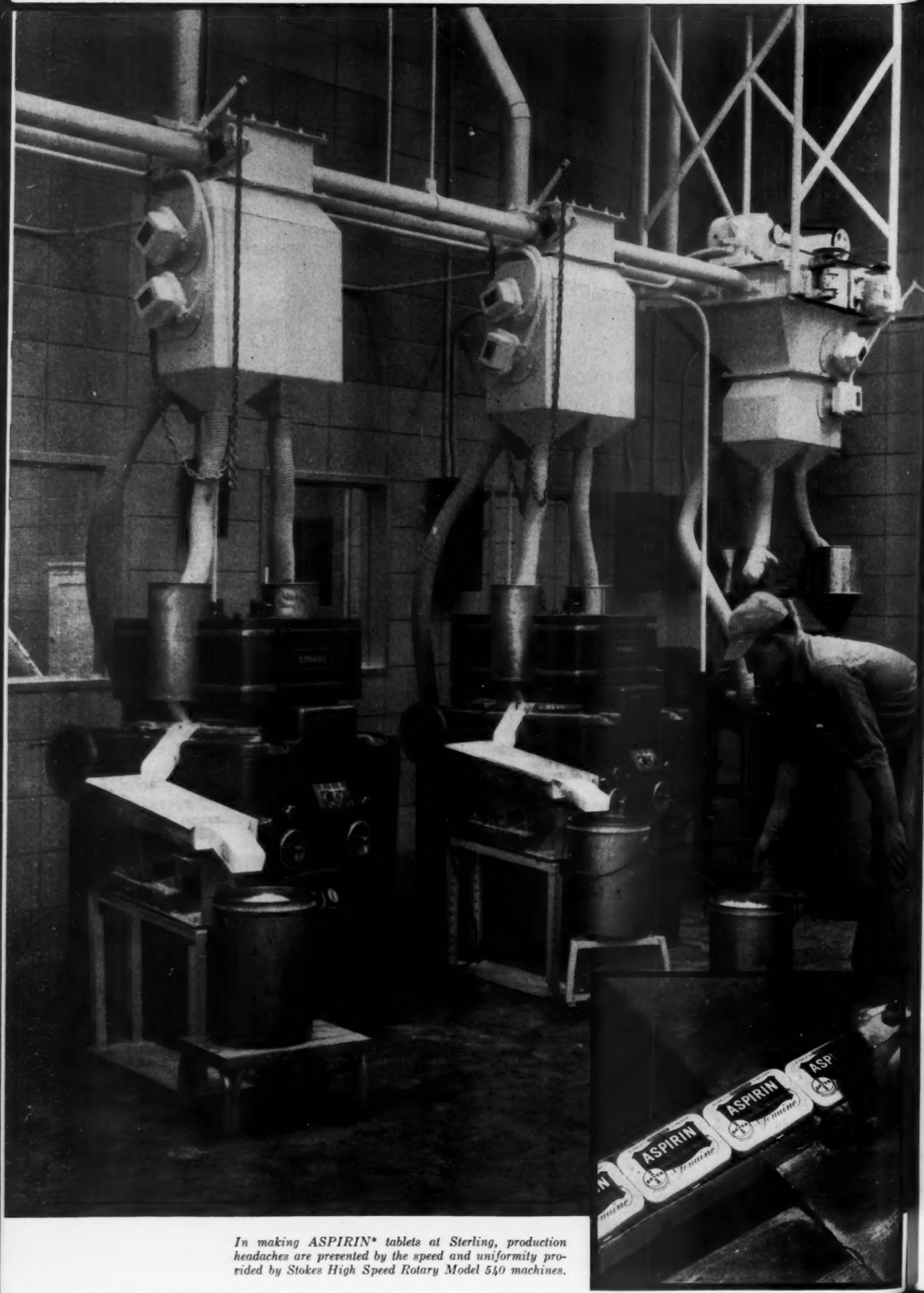
The mixer is available in a miniature ½ gal. capacity, laboratory-size model, a 13 gal. size, and full production sizes having capacities up to 925 gal.

High-speed Labeler

Crompton & Knowles Packaging Corp., Holyoke, Mass., has developed a new high-speed labeler (Model CKMD) capable of speeds up to 1,000 units per minute and featuring continuous-label feed and wide-range adjustability.

The labeler is equipped with a stainless steel paste belt quickly removable for cleaning, and an adjustable label box at each end. Varying thickness in labels is automatically compensated for by the self-leveling main and auxilliary label beds.

Precise operating heights of labels are maintained automatically with no adjustments necessary by the operator. Labels are added quickly and easily without stopping the machine. Compact, easily moveable equipment saves adhesive costs by eliminating excess usage of glue and lap paste.



In making ASPIRIN tablets at Sterling, production headaches are prevented by the speed and uniformity provided by Stokes High Speed Rotary Model 540 machines.*

Compounder's Corner

TGA Scientific Meeting

Papers given at the December 1960 meeting of the Scientific Section of the Toilet Goods Association included "Odor-intensity and the Stereochemical Theory of Offaction" by James W. Johnston, Jr. and Albert B. Parks; "Application of the HLB System to the Solubilization of Essential Oils" by S. J. Strianse and Monroe Lanzet; "Some New Pathways in the Formulation of Cosmetics for the Negro" by Franklin H. Cooper and Edward Sagarin; "The Change in Ultraviolet Absorption Spectra with *p*H—Its Use in the Analysis of Toiletries" by D. E. Dean, R. Suffis and A. Levy; "Studies on the Adsorption of a Simple Dyestuff by Hair" by M. Rieger and S. Brechner; "Some Analytical Applications of X-Ray Fluorescence Spectrometry" by G. Robert Clark; "Studies on the Darkening Action of Dihydroxyacetone" by Peter Flesch and Elizabeth C. Jackson Esoda. Also included in the Proceedings was the review by Paul G. I. Lauffer, "Some New Keys to Cosmetic Chemistry—1960," and "The Determination of Diethanolamine in Triethanolamine" by R. A. Hummel and W. B. Crummett.

According to Hummel and Crummett, the critical conditions for the quantitative oxidation of diethanolamine without interference from the slow oxidation of triethanolamine were found to be: the selection of an appropriate sample weight; the amount of excess periodate added; the *p*H of the solution during the reaction of periodate with diethanolamine; the length of time the periodate ion is allowed to remain in the alkalins solution; the addition of potassium iodide immediately after the addition of arsenite to speed the reduction of periodate. A new procedure has been developed to take these conclusions into account.

Dean, Suffis, and Levy point out that the ultraviolet absorption spectra of phenols and aromatic amines depend upon *p*H. Such compounds may be determined in the presence of each other by observing spectral changes at selected *p*H values, which depend upon the pK_a of the absorbing materials. As illustration of the technique, the analysis of two toiletries was described and the application of the principle to other areas was mentioned.

Clark, discussing X-ray fluorescence spectrometry, pointed out that advantages were that preliminary separation of the element to be determined is not required; little or no sample preparation is needed; the time required for analysis is short, determinations usually requiring only two or three minutes. Determination of bromine and iodine in halogenated fluorescein dyes was described in some detail, and the equipment is used for determining a number of elements. To handle heavy metal determinations required in the routine certification of colors, the FDA must produce analyses at a rate of one every 15 minutes of each working day.

According to Flesch and Esoda, browning of the skin by dihydroxyacetone is accompanied by combining of free amino groups of the horny layer with the carbonyl group of DHA. Evidence for this reaction was found in the gradual decrease of free amino groups in the horny layers of human skin during incubation with DHA; by prevention of the browning by previous treatment of the skin with formaldehyde; by retarding of browning of skin under conditions of high humidity; by greater decrease of reducing groups in DHA by incubation with deaminated scales than with water-washed scales.

The adsorption of the acid dye Orange 2 by human hair was studied by Rieger and Brechner. Results closely parallel those obtained in dyeing wool, from which it is safe to assume that the mechanism of hair dyeing is the same as in dyeing wool, theoretically and practically.

Strianse and Lanzet systematically studied the solubilization of three essential oils, using the HLB system as a guide to the selection of solubilizing agents. Oil of lavender, oil of lime, and methyl salicylate were solubilized and the required HLB's were determined for solubilizing the lavender oil and the lime oil. Methyl salicylate presented certain anomalies which were studied and theoretical explanations postulated.

It was found that mixtures of solubilizing agents produced better soluibilaztions than a single component and that mixtures of an anionic, sulfated ethoxylated alkyl phenol with a nonionic, ethoxylated alkyl phenol produced solubilizations at emulsifier to oil ratios of as low as one.

The HLB for solubilizing was found to extend from below 13.0 to approximately 17.0. The solubilization of any one oil was shown to occur over a relatively narrow range of HLB. Somewhat higher percentages of oil could be solubilized over a broader range of HLB, providing the ratio of emulsifiers to oil was held constant.

Some theoretical implications relating to solubilization were discussed along with their relationship to method of manufacture and ultimate solubilization, clarity and stability.

With all solubilizing sequences

there was a phenomenon which the authors call HLB shift, which was fully described and explained.

The possibility that some emulsifiers studied might form complexes with the essential oils was considered and some data which might tend to substantiate this was presented.

According to Cooper and Sagarin, formulation of cosmetics designed primarily for the Negro user must be based not only on an understanding of the physiological differences between the Negro and white populations, but also on an understanding of the wide range of physiological types within the Negro group. Shades of complexion, structure of hair, and other factors are taken into account. Shampoos, hair conditioners, make-up, and numerous other cosmetics must be tailor-made not only to suit the Negro group, but to accommodate the varied peoples found therein. In addition, an entirely new approach to sunscreen products, a tan inhibitor, has been developed by the authors, and its formulation and use were described.

According to Johnston and Parks, while Dr. John E. Amoore, University of Edinburgh, has held that his theory of the stereochemical specifities of human olfactory receptors enables him to induce the odor-quality and intensity or strength of certain chemicals, it has been necessary to test these two attributes of odor separately. A homologous pair of molecules, methyl-carbomethoxypimelate and methyl-4-carbomethoxy-4-methyl pimelate, have been tested for their organoleptic qualities. The result showed that Amoore's prediction was good when one considers that it was inducted from first principles. While his theory needs to be revised for the prediction of the odor-intensities of articulate molecules, it may be found that chemicals with a fixed molecular geometry have a relation between the molecular structure and organoleptic intensity.

Methocel HG

Two new regulations allowing the use of Methocel HG in foods have been issued by the Food and Drug Administration.

The first regulation permits usage of Methocel HG in all types of foods except confections and standardized foods. The second extends the coverage to standardized salad and french dressings.

The general regulation authorizes the use of the propylene glycol ether of methylcellulose (hydroxypropyl methylcellulose produced by The Dow Chemical Company under the trademark, Methocel HG) as an emulsifier, film former, protective colloid, suspending agent or thickener in accordance with good manufacturing practice. Earlier regulations authorized similar use of Methocel MC, USP.

Methocel products perform a wide variety of functions in foods, acting as thickeners, emulsifiers, stabilizers, foamers and moisture retainers.

Tablet Coating

In the standard sugar coating procedure a large part of the time is spent in sealing, rounding, and smoothing the tablet and in overcoming the white background during the coloring phase. Also, in the standard coating procedure, the operator must first go to the trouble of compressing a smooth tablet, must then rough it up in order to round the edges, and, finally, must smooth it out before color can be applied.

All these points were taken into consideration by S. S. Tucker and A. B. Rednick (*J. Am. Pharm. Assoc. Sci Ed.* 49: 738, 1960) when revising the coating procedure. The new procedure is divided into three basic phases: (*a*) The tablet is given two coats of acacia, using gelatin solution as the adhesive. This gives the tablet sufficient strength to withstand chipping and cracking in the coating pan and at the same time removes the sharp edges of the tablet. In addition, a colorant is added to the adhesive, thus, coloring begins immediately. (*b*) The tablet is sealed with one coat of a gum or resin cast from a suitable solvent. (*c*) The tablet is finished off using a pigment coating suspension.

The core tablets, to be coated, are placed in a conventional coating pan, the size depending upon the batch load. Any standard shaped tablet is suitable (except a flat face); however, a more spherical tablet and a thinner edged tablet facilitate the procedure. Undercoating adhesive suspension is then applied to the rolling tablets until they are evenly and completely wetted. When the mass becomes tacky, acacia powder is dusted on the tablets in the usual fashion. This procedure is repeated. The tablets now have a color somewhat similar to the finished color, though mottled in appearance. It is interesting to note here that lakes give a definite color to the tablets at this stage, whereas a pigment will not. In order to overcome this, one may use, with the undercoating adhesive, a dye or a lake that gives a similar color (it is not necessary to duplicate the color) to the finished product.

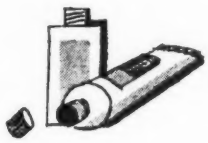
The tablets are now sealed with a gum or resin cast from a suitable solvent. For example, a four-pound cut of shellac diluted with an equal quantity of isopropyl alcohol is satisfactory. One coat is usually sufficient.

Coating suspension is now applied and, generally, 25 coats are sufficient. The tablets are finished off and polished in the usual fashion.

The finished product retains the same pharmaceutical elegance as when made by present methods, yet has a coating of approximately one-half the thickness, and this procedure is accomplished in about one-half the time.

Suppository Base

A requisite in the medicinal treatment of local conditions involving the anorectal area is for an emolient, nongreasy, protective application that would favor a sustained release of incorporated medicinals in addition to maintaining the mucous epithelial lining of the area in its normal hydrated condition. Utilizing Lantrol, a non-sensitizing liquid fraction of wool fat, as the major component, a new suppository base has been formulated by H. I. Silverman (*J. Am. Pharm. Assoc. Sci. Ed.* 49: 716, 1960) which possesses, in addition to the foregoing attributes, a high degree of pharmaceutical elegance, adequate plastic range, and is compatible with the great majority of pharmaceuticals commonly incorporated in suppositories. Techniques utilized to determine rate of pharmaceutical release show a desirable prolonged release of medication. While the base itself is not water soluble it is dispersible in body fluids, and warm water, forming a water-in-oil emulsion that spreads smoothly over the skin, forming a protective, partially occlusive, nongreasy film.



Advancing Therapy

Syrosingopine

The naturally occurring derivatives of rauwolfia that have hypotensive effects also have sedative effects. Although the sedative effects have been useful clinically, they can be excessive. Serious depression may occur. In an effort to find a compound with a dissociation of hypotensive and sedative effects, a variety of synthetic derivatives of reserpine have been prepared.

In rats, mice and dogs, syrosingopine, carbethoxysyringoyl methylreserpate, was found to have hypotensive activity roughly equivalent to that of reserpine but with much less sedative effect. In many of these studies the alkaloid was administered parenterally. In the dog syrosingopine has been reported to have hypotensive activity when given orally.

Reserpine depletes catechol amines, nor-epinephrine and serotonin, centrally and peripherally. The postulates have been offered that the central depletion of serotonin accounts for the sedative effect of reserpine, and that the peripheral depletion of nor-epinephrine accounts for its hypotensive effect. Syrosingopine may principally affect peripheral storage sites of nor-epinephrine.

In man orally administered syrosingopine has not had sedative activity. Doses have varied over an eightyfold range, from 0.25 mg. to 20 mg. a day. Hypotensive effects have been described, but double-blind studies have not been reported. Both hypotensive and sedative effects have been observed after parenteral administration of doses of 7.5 mg.

Observations by B. M. Winer and B. M. Sahey (*N. E. J. Med.* 263: 1165, 1960) confirm the hypotensive, bradycrotic and sedative effects of reserpine and indicate that syrosingopine does not have appreciable hypotensive or other activity in man when administered orally in doses of 1 to 6 mg. daily for many weeks. Such doses were as much as sixteen times the doses of reserpine that in the same patients had demonstrable hypotensive and other effects. Providing additional evidence of the lack of effectiveness of oral syrosingopine were the observations in a patient who had little response to combined hydrochlorothiazide and syrosingopine orally, and a marked hypotensive response, including postural hypotension and syncope, when hydrochlorothiazide was given with reserpine orally or syrosingopine parenterally.

These observations suggest that syrosingopine is either poorly absorbed or inactivated in the gastrointestinal tract. Studies of the effects of large doses of syrosingopine orally and comparative studies of the sedative and hypotensive activities of the two alkaloids after parenteral administration are indicated. The fact that parenterally administered reserpine and syrosingopine had similar hypotensive effects but dissimilar sedative effects suggests the importance of further studies with chemically modified compounds.

Cardiac Necrosis Protection

Experiments by H. Selye (*Proc. Soc. Exptl. Biol. Med.* 104: 212, 1960) on rats indicate that the antimineralocorticoid steroid - spirolactone 3-(3 keto-7-thioacetoxy-17β-hydroxy-4-androsten-17α-yl) propanoic acid lactone—also known as SC-9420 or "Aldactone"—offers considerable protection against induction of acute, infarct-like, often fatal myocardial necroses normally produced by fluorocortisol plus some Na-salts and stress, alone or in combination.

Thalidomide

Thalidomide is an effective agent for the treatment of insomnia. It has a safety fatcor which makes its use desirable when there is danger that accidental or deliberate overdosage may occur. It is a less effective ataraxic than phenothiazines, according to S. Cohen (*Amer. J. Psychiat.* 116: 1030, 1960).

Excellent results were obtained in 21 patients (42 per cent); seventeen (34 per cent) reported that the drug produced good hypnosis, but they experienced occasional nights in which sleep was broken or not restful; five (10 per cent) patients complained of "hangover" upon awakening; seven (14 per cent persistently complained of poor induction of sleep, broken sleep, or very early awakening.

Placebos

In clinical investigation, a placebo is essential in evaluating drugs and procedures which depend upon subjective responses, according to J. L. Bakke (*N. W. Med.* 59: 1131, 1960). The practicing physician can usually rely upon findings of evaluations which are published in standard journals and clearly present the method of study, including appropriate selection of patients and their unbiased assignment to placebo or test groups. In order to avoid bias during therapy, the drug or placebo is usually presented in a double-blind fashion; experience has repeatedly demonstrated the importance of this method. It has been found that placebos are surprisingly potent; some patients are unusually responsive to them, while others are resistant, and very few are immune. Placebo-responders have been found to be pleasant, talkative, sociable, cooperative, and dependent upon outside stimulation, while non-responders are more mature, critical, independ-

ent, and less anxious. The wto groups do not differ in regard to sex or intelligence. Placebos may prove toxic, even causing rashes, nausea, or vomiting. Many of the therapeutic and toxic effects of new remedies are actually placebo effects.

In medical practice, placebos may be justifiably used (1) in tapering off narcotics (to minimize dose and duration), (2) in terminal care to minimize the dose and discomfort of narcotics, (3) to pacify patients who expect the doctor to do something during a series of office visits while conducting an initial work-up before any diagnosis has been established, (4) to pacify patients who demand unnecessary therapy and reject the doctor's explanations and in whom rapport requires this support, and (5) to assess the necessity for long-term, doubtful, expensive, or dangerous remedies for the relief of subjective complaints or highly variable objective disorders. The use of placebos is not justified in an attempt to distinguish between "real" and "imaginary" symptoms or as a handy means to avoid taking the time to approach the patient's problem directly. There is no place for the "impure placebo" (i.e., vitamins, tonics, penicillin, small doses of phenobarbital, desiccated thyroid, etc.), which is given largely to satisfy the patient and with the hope that it might do some good; every patient should be given the benefit of proper diagnosis and specific therapy.

Heparin Antihistaminic

Laboratory work demonstrated that heparin has the ability to neutralize histamine by acting as a biological ion exchanger following the law of mass action, forming a heparin-histamine complex. As a result of this finding, studies were undertaken by D. A. Dolowitz and T. F. Dougherty (*Laryngoscope* 70: 873, 1960) in human subjects which demonstrated that heparin has a therapeutic effect in those conditions in which the primary cause of the malady may be histamine release and the allergic inflammation which results from it.

Heparin, added to previously unsuccessful steroids and antibiotics, helped clear infected external otitis (with and without weeping eczema), acute hay fever, and asthma. Intravenous injections of 100 to 300 mg. of heparin, depending on the size of the patient, proved effective during acute attacks of hay fever or asthma. Nine of 10 asthmatic patients given intravenous injections of heparin during acute attacks experienced immediate relief from wheezing, cough, and difficulty in breathing, and there was a decrease in the panic which affected 6 patients. Eight patients commented upon the feeling of warmth in their chest. The one patient who failed to secure remission from acute attacks of asthma was believed to experience asthma as the result of neuropsychiatric difficulties; no true lung pathology could be found in this case.

There was sufficient clinical improvement during the studies to warrant further studies to check on the hypothesis that sulfated polysaccharides, especially heparin, can provide protection against endogenous histamine release, suggesting a basic protection at least as important as that of anticoagulation.

Dexamethasone Derivatives

Scheiffarth and Zicha (*Med Welt* 7:365, 1960) stated that esterification of dexamethasone with hemisuccinate or diethylaminoacetate gives compounds that have a rapid effect. Dexamethasone - sodium - hemisuccinate was given to 15 patients with allergic and rheumatic diseases, and dexamethasone-diethylaminoacetate to 75 patients with various internal medical conditions. These esters were used in dosages of 5 to 25 mg. a day. Dexamethasone-sodium-hemisuccinate was given intravenously and intramuscularly. Diethylaminoacetate was given by these routes and intrapleurally, rectally, and subcutaneously. No local side effects were observed even after treatment for 4 months. The drug began to take effect very rapidly regardless of how it was given.

In a patient with status asthmaticus, improvement was noted within 10 minutes. In 2 patients with wasp stings on the back of the hand, the marked edema was completely eliminated within a few hours after local application of 5 mg. of the drug. In patients with carcinoma, a few days' treatment with dexamethasone in a dosage of 10 mg. a day relieved the pain and produced a marked improvement in the general condition. Parenteral dexamethasone therapy proved of value in treating a number of blood diseases. It produced transient remissions when other compounds no longer had any effect. In patients with exudative pleurisy, dexamethasone esters were used in combination with tuberculostatic drugs. Side effects were the same as with oral dexamethasone treatment. No subjective side effects were seen even with large dosages. In long-term treatment, antibiotics may be administered simultaneously. Although the therapeutic results were most satisfactory, it must be borne in mind that such therapy was purely symptomatic.

TAO and Triple Sulfa

Effects of treatment were studied by G. Carroll et al. (*J.A.M.A.* 174: 1603, 1960) in 277 patients with infections of the urinary tract, 113 of these infections being either staphylococcic or streptococcic. The treatment consisted of the oral administration of two tablets, each containing triacetyloleandomycin, 75 mg.; sulfadiazine, 111 mg.; sulfamerazine, 111 mg.; and sulfamethazine, 111 mg., thrice daily for five days. The choice of drugs was intended to decrease the likelihood of difficulty with drug-resistant mutations and was based on evidence that tests of sensitivity of infecting organisms to sulfa drugs in vitro are not reliable in predicting therapeutic effectiveness. Of 86 patients who had staphylococcus infections, 64 (74 per cent) recovered. Of 27 patients with streptococcus infections, 17 (63 per cent) recovered. Six patients developed a rash or diarrhea as side-effects, but these were not sufficiently severe to necessitate interruption of the treatment.

Uracil Mustard

Uracil-mustard, according to E. Shanbrom et al (*J.A.M.A.* 174: 108, 1960), is a highly effective orally given alkylating agent with a therapeutic spectrum similar to that of other mustard analogues. Milligram for milligram it appears to be considerably more potent, especially in the treatment of lymphomas and chronic leukemias, than any other alkylating agent presently available for oral administration. Occasionally, solid tumors, notably ovarian carcinoma, may respond. There is some evidence to suggest that the drug may be effective where other alkylating agents have failed.

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TRADE LITERATURE

Automatic Carton Filler

Triangle Package Machinery Co., 6655 West Diversey Ave., Chicago 35, Ill.—4-pg. illus. brochure describes carton filler and sealer which handles sizes 3 x 1¾ x 5½" to 10 x 4 (or 9 x 5) x 16" at speeds up to 80 per minute.

Specifying Industrial Sifters

Sprout, Waldron & Co., Inc., 130 Logan St., Muncy, Pa.—4-pg. illus. brochure (Reprint I-84) outlines major points in sifter selection; basic operating principles; screening aids and specifying mesh sizes.

Screw Conveyors

Sprout, Waldron & Co., Inc., (see above)—8-pg. illus. bulletin (83-A) describes standard, and industrial gas-tight screw conveyors.

Directory of Associations of Businessmen

Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.—U. S. Department of Commerce has published a new directory containing data on over 2,000 national associations, available at 50 cents a copy.

Datamatic Weight Calculator

Scale Specialties, Inc., Box 574, Denville, N. J.—4-pg. illus. brochure describes Datamatic which weighs and records weights of items on production lines.

Sulfuric Acid

General Chemical Div., Allied Chemical Corp., 40 Rector St., New York 6, N. Y.—40-pg. illus. pamphlet features enthalpy curves and includes latest information on uses, manufacture, properties, storage, handling and methods of analysis.

Sterilization

Becton, Dickinson and Co., Rutherford, N. J.—123-pg. booklet contains eight articles covering the problems of sterilizing surgical equipment, heat, gaseous and chemical sterilization methods, the control of cross infection, skin antisepsis, new horizons in sterilization and the control of sterilization procedures.

Heavy-Duty Bench Scales

Exact Weight Scale Co., 541 East Town St., Columbus 15, Ohio—2-pg. illus. bulletin (#3415) describes heavy-duty platform-type bench scales for general purpose industrial weighing.

Electronik Recorders, Indicators

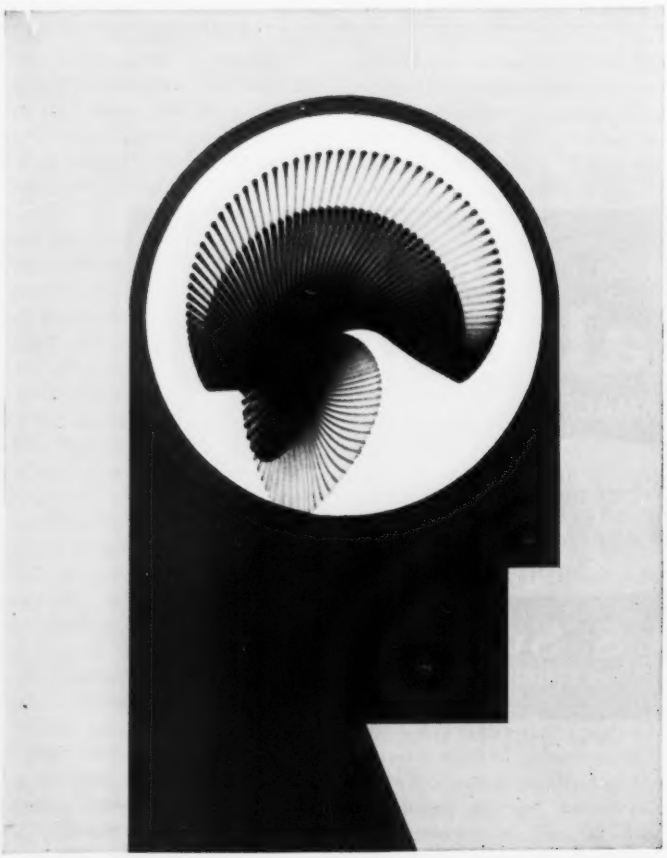
Minneapolis - Honeywell Regulator Co., Ind. Div., Wayne and Windrim Ave., Philadelphia 44, Pa.—48-pg. illus. catalog (#C 15-1a) describes strip chart recorders, circular chart recorders, precision indicators, and measuring elements.

Chemical Resistant Floors

Ralph V. Rulon, Inc., 3900 N. Second St., Philadelphia 40, Pa.—8-pg. illus. catalog (Bulletin #604) describes thirty Rulon corrosion resistant materials and their applications. tions.

High-Pressure Acetylene Chemicals

Antara Chemicals, Div. of General Aniline & Film Corp., 435 Hudson St., New York 14, N. Y.—6-pg. data sheet gives chemical structures, physical forms and description, and a listing of properties and uses for all of the company's commercially available high-pressure acetylene derivatives.



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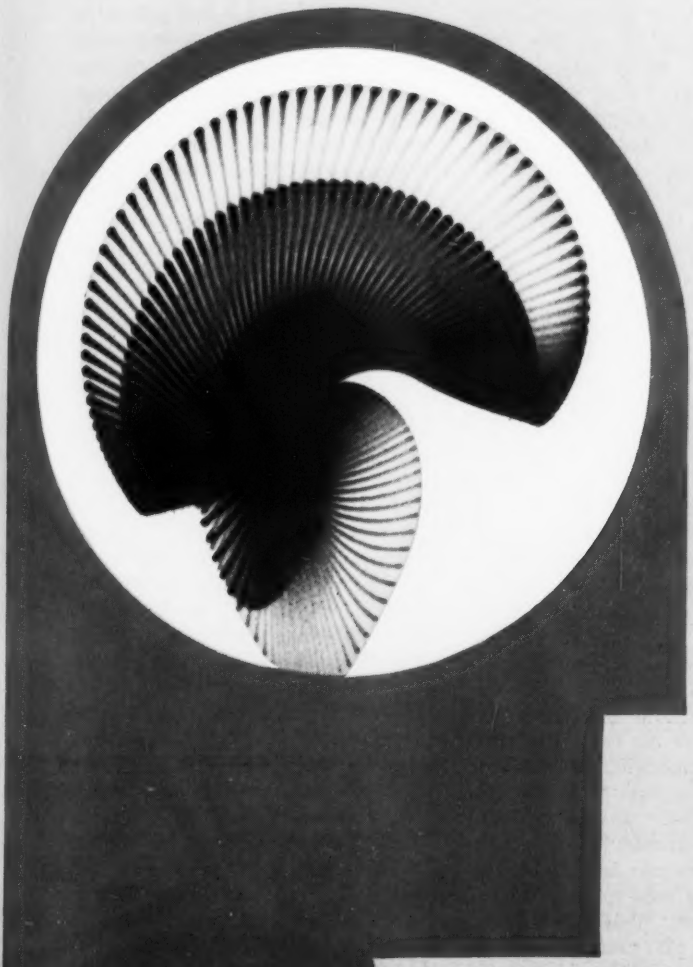

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Perfumer's Shelf

New Perfume Materials Book

Steffen Arctander, P.O. Box 114, Elizabeth, N. J., announces the imminent publication of his book "Perfume and Flavor Materials of Natural Origin." The first section of the work describes the processing of natural raw materials to obtain perfume and flavor substances and the processes of distillation, deterpenization, extraction, etc. are concisely described and illustrated. Illustration of modern and field equipment for processing are reproduced. Methods of classifying odors and evaluating flavors are outlined. The second section consists of 537 monographs of natural perfume and flavor materials, discussing the appearance, botanical origin, production, processing, odor and flavor characteristics. Suggestions are also incorporated regarding the use of the materials in compounding. A complete index increases the utility of the book.

American Society of Perfumers

Dr. J. S. Jellinek, of Polak's Frutal Works, Inc., addressed the American Society of Perfumers on the subject of "Evaporation and the Odor Quality of Perfumes." Odor perception, according to the speaker, depends upon the evaporation rate of odorants; when the rate of evaporation of ingredients is affected, the odor of the perfume changes. Not only the intensity, but also the nature of the odor is altered since the evaporation rates of separate ingredients are altered in different ways. Factors which affect evaporation are the electrostatic attraction of ingredients for one another, which determines fixation and blending effects; electrostatic interaction between the perfume and the material in which it is incorporated; attractive forces between perfume materials and skin or hair keratin. Behavior of perfumes on skin and hair are greatly influenced by these forces, along with the effects of body heat, sebum, and water and water vapor. Dr. Jellinek described experiments demonstrating these forces that may markedly affect perfume quality as well as intensity.

Cold Wave Perfuming

The odor of cold wave solutions, according to G. A. Nowak (*Dragoco Report* 7: 239, 1960), is caused by the thioglycolic acid, by the volatile ammonia and sometimes by the less volatile monoethanolamine used in some wave solutions, by dithioglycolate in partially oxidized solutions, which easily form hydrogen sulfide, and on the hair by reaction with hair keratin. As a consequence, when the bottle of solution is opened, perfume should cover the sulfide smell and the ammonia odor; during application to the hair, the odor should be masked but not be too predominantly perfumed; enough perfume would remain on the hair to mask residual odors.

The perfume composition should resist alkali in the range of pH 9.3 to 9.6; traces of metals will accelerate destruction of the waving solution and must be excluded from the perfume; perfumes should not undergo discoloration nor color the hair. Perfume oils must be soluble to make a clear solution, without later separation, when added to clear wave solutions and must not affect emulsions used as clouding agents. The perfume odor should not undergo alteration during relatively prolonged storage in the wave solution. With these factors in mind, it is obvious that delicate and dainty perfume notes are not especially effective in this application. Rather powerful odors are required to cover the cold wave odor mixture. Finally, note that perfumes used in cold wave solutions may be acid in character and are used to the extent of about 1 per cent. This may lead to a shift of 0.1 pH unit, which may affect activity, and should be taken into consideration in formulating the solution.

Antibacterial Essential Oils

Studies on the action of essential oil vapors on anthrax spores were reported in 1887 by Chamberlain. Subsequent investigations have clearly demonstrated that essential oil vapors possess antibacterial properties. The proper evaluation of these volatile plant products on bacteria cannot be fully realized because of the diverse methods used by various investigators and the relatively small number of essential oil vapors tested. This study was undertaken by J. C. Maruzzella and N. A. Sicurella (*J. Am. Pharm. Assoc Sci. Ed.* 49: 692, 1960) in an attempt to evaluate a large number of essential oil vapors against a variety of Gram-positive and Gram-negative bacteria.

Vapors of 133 essential oils were used in conducting 784 tests on the six test organisms. In this series of tests, the vapor showed antibacterial activity in 179 (23 per cent) cases. Of the 133 oil vapors tested, 71 per cent were found to be active against *M. avium*, 19 per cent against *B. subtilis* var. *aterrimus*, 12 per cent against *S. fecalis*, and 6 per cent against *E. coli*. Of the one hundred and nineteen oil vapors screened against *S. aureus*, 14 per cent showed activity. Thus, *M. avium* was the most susceptible organism while *E. coli* was the most resistant. Moreover, the Gram-positive bacteria were more vulnerable to essential oil vapors than the Gram-negative.

Further inspection of the data reveals that the vapors of the following oils produced the largest zones of inhibition on all test organisms: thyme (white), cassia, thyme (red), savory, cinnamon (Ceylon), origanum, and cherry laurel.

The 28 oil vapors with no activity were: *Abies alba* (from cones); amber, rectified; balsam Peru; calamus; camphor, sassafras; camphor, white; chamomile, German; dwarf pine needle; grapefruit, Florida expressed; guaiac wood; hops; juniper, twice rectified; lemon, California

coldpressed U. S. P.; lemon, Italian handpressed U. S. P.; lime, distilled; lime, expressed; lovage; mandarin, Italian; myrrh; niaouli; opopanax; orange, California sweet, coldpressed U. S. P.; orris root, Florentine; parsely seed; persic U. S. P.; *Pinus sylvestris;* styrax; and tangerine.

Special Colognes

Eau de Cologne has had many competitors during its long and flourishing career but very few indeed of these variations have survived commercially, according to F. V. Wells (*S.P.C.* 1960, p. 827).

England's most characteristic and celebrated *parfum de toilette*, lavender water, was originally prepared by simple maceration of the fresh flowers in alcohol, but has long since come more into line with eau de Cologne. Although still a distinctive perfume or toilet water of predominantly lavender character, it is usually modified with bergamot and often with small quantities of lemon, orange, petitgrain, neroli, clary sage and rosemary oils. The influence of the eau de Cologne note is clearly apparent. The same observation applies to Florida water, which is essentially a spiced blend of Cologne and lavender notes.

The true Cologne odor is easily modified, so easily, indeed, that many preparations that are nine-tenths eau de Cologne do not, in fact, smell like eau de Cologne. In this category are toilet waters that contain sensible proportions of musk, heavily ambered Colognes and Colognes with an abnormally persistent odor.

Rose notes, in particular, are popular in the U.K. as modifiers of the Cologne complex. Accentuation of the rose or rose-geranium motif does not affect the initial odor or effect so much as it does the residual odor on the skin. Even a first-class product of this type leaves behind an odor that is frankly and persistently rosaceous. As for coriander, this gives a warm and lingering perfumed note on the skin. Lime oil, so pungently characteristic during the first stage of evaporation, is an interesting variant but one that must obviously be used with caution.

The first step in the deliberate modification of the Cologne note undoubtedly came with the introduction into the classic formula of small proportions of flower oils, giving the familiar floral Cologne variation. At the present time the vogue for floral Colognes may be past its zenith, but some examples of this once-popular trend still retain their popularity. They are chiefly Colognes with a rose, jasmin, aldehydic orange-blossom, fougere, chypre, flower bouquet, verbena, carnation or gardenia shading.

The next step was the introduction of Colognes modified by the inclusion of fantasy perfumes. In the U.K. to a considerable extent and even more markedly in the U.S.A., the term "perfumed Cologne" has loosely come to mean a dilute and therefore less expensive version of a standard perfume, or in other words a perfumed toilet water.

Much more interesting, however, is the effect that the Cologne theme has had in the formulation of perfumes generally. There are many perfumes, including some of the most justly celebrated, that are based upon typical Cologne compositions artistically blended with flowery, spicy, woody and aldehydic notes. Here the Cologne odor is never dominant but is used simply for its fresh citrus effect. Perfumes for the younger woman, for sports use and the informal occasion are perhaps best adapted to benefit from this technique—as well as perfumes for men.

Solid Colognes retain a good deal of their popular appeal, which dates back to 1912, when they were first created and put on the market by a British firm. They usually consist of solid soap/alcohol gels. It may, nevtheless, be emphasized that minor variations in a solid cologne formula can lead to maior alterations in the appearance, stability and general acceptability of the finished product. The perfume used in such stick Colognes should also be specially formulated to suit the medium with special care being taken to ensure a sufficiently clean, characteristic and lasting top note. Excesses of odorous bactericides, bacteriostatic agents and medicaments are best avoided, but antioxidants can advantageously be incorporated. Effective evaporation-retarding packaging is most desirable.

Currently the most widely publicised of eau de Cologne variations is the aerosol Cologne. Here it is not so much a matter of adapting the perfume to the medium as ensuring that the medium and the pack will not react adversely on the perfume. Glass presents no corrosion problem, but uncoated glass is potentially dangerous, while plastic-coated glass has aesthetic limitations. Stainless steel is too expensive and, for one reason or another, all other materials are unsuitable, except aluminum.

A typical aerosol Cologne or related toilet water may consist of 40-50 per cent propellant and 60-50 per cent perfumed alcohol. In this case a break-up type of valve is used and the propellant is mainly dichlorotetrafluorethane. If a narrow spray cone is required, the ratio of perfume mixture to propellant is decreased and a standard valve employed. This applies to the larger containers. For the smaller 10 c.c. packs, a typical charge may be 5 per cent perfume oil, 20-25 per cent alcohol and 75-70 per cent propellant.

The water content should be kept at a low level, preferably below 10 per cent of the alcoholic solution, for above this figure the problem of miscibility with the propellant intensifies proportionately. This refers, moreover, to Colognes which are packed in glass: when metal containers are employed, even although they are lacquered, it is necessary to maintain the water content at a very low level to avoid corrosion difficulties. Terpeneless oils are useful, of course, especially as the terpenes as a class have a propensity for producing off-notes when in prolonged contact with chlorinated-fluorinated hydrocarbons. During the first phase of evaporation from a surface, the presence of propellants, though short-lived, tends to unbalance the freshly delicate top note of a good eau de Cologne, and it is therefore desirable to effect a slight readjustment of the constituents of the latter in order to offset this tendency. More drastic reformulation is only necessary in the production of space sprays, as distinct from these conventional surface-sprayed products.

Cologne note, though of virtually unlimited interest in the field of toilet waters, alcoholic perfumes, solid perfumes and aerosol perfumes, and of more limited application in the perfuming of toilet soaps, lotions and bath preparations, is not so well adapted for use in the perfuming of face powders and lipsticks.

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Skin Research

The Academic Big Mouth

Some of the academic research people who occasionally publish papers that might conceivably be interesting to the cosmetic industry, then feel that they are specially qualified in open meetings to ridicule cosmetic promotion, and products, and research. This ridicule is the harder to take when it is based upon and often flaunts abysmal ignorance of the composition of cosmetic products and the good, honest work going into their formulation. The speaker then tops it all by demanding that the industry put more money into "basic" research, obviously to be directed by the best qualified man, the speaker. I never before realized that it was possible to ask for financial support after you kick the prospective donor in the teeth. These scientists are bright enough; they might even amount to something when they grow up. J.K.

Pregnancy and Hair Growth

Diffuse hair loss in the postpartum woman is a well-known clinical fact. However, little is known about the mechanism of this hair loss. It was thought that this might be a manifestation of a change in the hair cycle occurring normally during pregnancy. Therefore, the hair cycle of the human scalp was studied by Y. L. Lynfield (*J. Invest. Dermatol.* 35:323, 1960) during and after pregnancy by examining hair roots periodically.

On the scalp, anagen (the growth phase of the hair cycle) lasts for several years. Telogen (the resting phase which follows anagen and ends with depilation) lasts for a few months. Each follicle has its own rhythm, uninfluenced by the follicles in its immediate neighborhood, and usually out of phase with these neighbors.

Van Scott and Reinertson described a method whereby the percentages of growing and resting hairs can be easily established. This percentage is, according to Van Scott, a rough measure of the length of anagen and telogen. Van Scott and Reinertson's method was used in the present investigation.

The findings seem to indicate that during pregnancy the conversion of hair from anagen to telogen is slowed down. This change would account for the observed increase in percentage of anagen hairs. While this seems to be the most probable explanation, an alternate possibility is that pregnancy is associated with a more rapid shedding of telogen hairs.

Postpartum, the conversion from anagen to telogen is accelerated, accounting for the decrease in percentage of anagen.

The observed alternations of the hair cycle by pregnancy are probably due to the changed endocrine constellation. In animal experiments, hormonal influences on the hair cycle have been clearly demonstrated. Among the observed effects the most pertinent observation has been that estrogens prolong the anagen phase once a cycle has begun.

One must be cautious in applying data obtained from animal experiments to human scalp hair, particularly because in laboratory mammals, in sharp contrast to human scalp hair, the telogen phase is longer than the anagen. Also, in most laboratory mammals, there are synchronized waves of growth of hair which sweep over their bodies, while in man each hair has its individual rhythm.

Little attention has been paid in medical literature to changes of the scalp hair during pregnancy. Behrman observed that women "with the seborrheic diatheses and even male pattern alopecia" improved at the end of the second month of gestation: "Their scalps are less oily, the sebum diminished to a normal amount, and the amount of hair fall is temporarily arrested."

Postpartum hair loss is well known to dermatologists, and is usually classified together with postinfectious, postoperative, and posttraumatic hair loss as "symptomatic alopecia." These alopecias have in common their diffuseness and their good prognosis. Sabouraud, who is widely quoted, thought that hair loss begins suddenly 70 to 75 days after childbirth, and lasts six weeks.

Unlike these estimates, the time of onset and duration of postpartum hair loss in the present study was variable. It began almost immediately after delivery in two women, one month postpartum in one, and four months postpartum in one. It lasted up to 5 months.

In conclusion, an increase in the percentage of hairs in anagen during pregnancy and a decrease in the percentage of anagen hairs during the postpartum period seems to be a general behavior pattern for human scalp hair. Accelerated hair loss after delivery probably occurs to some degree in most women, sometimes with short, sometimes with longer latent periods.

Percutaneous Absorption

An approach to the evaluation of the percutaneous absorption of drugs from ointment bases is described by M. E. Stolar, G. V. Rossi, and M. Barr (*J. Am. Pharm. Assoc. Sci. Ed.* 49: 144, 1960). Salicylic acid and sodium salicylate were selected as test drugs for incorporation into ointment bases representing each of four physical types of ointment vehicles.

These ointments were applied to the intact shaved skin of the rabbit and confined by a specially designed bandage. **Concentration of salicylate** in the blood was determined at hourly intervals following application of the ointment. Salicylic acid was most effectively absorbed from hydrophilic ointment. The extent of absorption from the other ointments studied, in decreasing order, was: hydrophilic petrolatum containing water, petrolatum, and polyethylene glycol ointment. Sodium salicylate was also absorbed to the greatest extent from hydrophilic ointment, although the degree of absorption was considerably less than that observed with salicylic acid. On the basis of salicylate blood levels, no significant absorption of sodium salicylate occurred from ointments prepared with petrolatum, hydrophilic petrolatum containing water, or polyethylene glycol ointment.

Comment: I am not impressed by the possible practical value of this study, which presumably shows that salicylic acid penetrates rabbit skin more readily from some ointment bases than from others. The 6 per cent salicylic acid ointment would be expected to have enough keratolytic or keratoplastic action on the skin so that the latter could no longer be considered intact and relatively impermeable. Benzoic acid and sodium benzoate might have been a better pair for determining differences in percutaneous absorption between oil-soluble and water-soluble compounds, and from different bases. Finally, who cares, other than a rabbit, whether or not a medicament passes through rabbit skin, which is very different indeed from human skin. Even as a first approximation it might not be safe to assume from this work that the ointment bases used on rabbit skin would give corersponding results on intact human skin. J.K.

Phenylenediamine Sensitivity

The ortho and meta isomers of phenylenediamine were found by L. E. Gaul (*J. Invest. Dermatol.* 35: 231, 1960) to be nonreactive in the presence of para-phenylenediamine sensitivity. Antigenicity rests in the para-isomer. Color changes, or the pathways of oxidation and reduction taken by the isomers of phenylenediamine, help to explain the presence or absence of antigenicity. Information on the patch test reactiveness of chemical isomers could lead to a better understanding of immunochemistry and cross-sensitization.

Nicotinate Rubefacients

The nicotinate rubefacients according to J. B. Peterson, *et al.* (*Arch. Dermatol.* 82:495, 1960), are powerful agents to be used with great care. Undesired effects from their improper use may include conjunctivitis, irritation of the upper respiratory passages, headache, gastric distress, and syncope. Prolonged and repeated application to a particular skin area has thus far not proved to be harmful although it may theoretically be so. If these agents are carefully and properly employed, they are of value in the alleviation and prevention of the vasospastic episodes of certain patients with Raynaud's disease or Raynaud's phenomenon.

The nicotinate rubefacient agents are of limited practical dermatologic value at present and are impractical for the prevention of frostbite. It is hoped that continued research with rubefacients will provide us with agents useful in the prophylaxis of frostbite, as well as other dermatologic conditions.

Fungistatic Unsaturated Acid

Both Burtenshaw and Ricketts and his colleagues observed that the self-sterilizing property of skin may be attributed to long chain unsaturated fatty acids. The latter authors felt that oleic acid, in particular, gives sebum its sterilizing effect. The presence of 18-carbon oleic (monoethenoid series), linoleic (diethenoid series), and linolenic (triethenoid series) unsaturated fatty acids on the skin has been established as early as 1925.

Since oleic, linoleic, and linolenic acids might be protective agents on the skin against some types of fungus infection, this investigation by R. B. Nathanson (*J. Invest Dermatol.* 35: 261, 1960) was undertaken to determine how the growth of a pathogenic fungus would be affected by these acids, and how the difference in the number of double bonds would affect the fungistatic action, if any, of each of these 18-carbon unsaturated fatty acids. The fungus selected for this study was *Trichophyton rubrum.*

On the basis of the data, it appears that linoleic acid and particularly linolenic acid are possibly effective inhibitors of fungal growth *in vitro,* in concentrations of 10 per cent or less. These acids may also act as protective agents on skin against other types of fungus infections.

Although oleic acid, as previously pointed out, has been reported to be an important factor in the self-sterilizing property of the skin, it does not appear to be very effective against *Trichophyton rubrum.*

Of interest for further study is the increase in fungistatic activity which parallels the increase in the number of double bonds, at least for the three unsaturated 18-carbon fatty acids reported here. Worth investigating for its fungistatic effect, probably, would be arachidonic acid with 20 carbon atoms and four double bonds, since its presence has also been reported on the skin.

Hair Dye

Brit. Pat. 833,809. April 27, 1960. "Dyeing Human Hair." Soc. Monsavon L'Oreal, Paris. Recommends dyeing human hair by applying to it an aqueous solution of *p*H value from 7 to 11, containing an azo dye having at least one disulfide linkage and a water-soluble reducing agent selected from aliphatic mercapto-carboxylic acids thiourea dioxide and alkali metal borohydrides, sulfites and hydrosulfites.

Triparanol

Triparanol (MER-29) is an effective cholesterol lowering agent which causes an appreciable depression of serum cholesterol in about 80 per cent of the patients studied by W. Hollander, A. V. Chobanian, and R. W. Wilkins (*J.A.M.A.* 174: 5, 1960). The compound not only reduces serum cholesterol but also the "miscible pool" of cholesterol in man. It likewise significantly reduces the total sterol content of the blood as well as the "total sterol pool." These effects appear to result from a reduced formation of cholesterol in the body.

The compound is well tolerated clinically and causes no serious side effects. Although triparanol structurally resembles the synthetic estrogen, chlorotrianisene, it does not produce clinically discernible feminizing effects.

Industry's Books . . .

Synthetic Analgesics Part I — Diphenylpropylamines, *by Paul A. J. Janssen, 183 pp., Pergamon Press, New York (1960), cloth,* **$7.50.**

This intensive work is limited to a description and discussion of methods of synthesis, and physical and chemical properties, as well as analgesic activity of derivatives of diphenylpropylamine. Other pharmacological properties of these compounds are briefly touched upon. The review is systematic and critical and includes much hitherto unpublished material; testing methods are critically appraised. Tabular arrangement of as much of the material as possible permits comparison of related work by different investigators and the relation of chemical structure to the biological activity. Areas which have undergone only little investigation show up in the discussion at potentially fruitful fields. For those interested in medicinal chemistry, this book is very interesting reading either on a casual or intensive level and, thereafter, an extremely useful reference and source book.

The Dispensatory of The United States of America—1960 Edition Volume Two, *Arthur Osol, Ph.D., Philadelphia College of Pharmacy, and Robertson Pratt, Ph.D., University of California, (New Drug Developments Volume, 240 pp., J. B. Lippincott Co., Phila., cloth,* **$9.**

In recent years, between 40 and 50 new medicinal agents, exclusive of their many dosage forms, have been introduced annually. Thus, since the 25th edition of the Dispensatory was published nearly 5 years ago, somewhat more than 200 new drugs have come into use. One purpose of this New Drug Developments Volume, which constitutes Volume 2 of U.S.D. 25, is to provide information about these new therapeutic substances.

Organic Reactions Volume XI, *Arthur C. Cope, Editor-in-Chief, 501 pp., John Wiley & Sons, Inc., New York (1960), cloth,* **$12.**

In keeping with the purpose of this series, Volume XI presents several important synthetic organic chemical reactions frequently used in research. These include: "The Beckmann Rearrangement," "The Demjanov and Tiffeneau-Demjanov Ring Expansions," "Arylation of Unsaturated Compounds by Diazonium Salts," "The Favorskii Rearrangement of Haloketones," and "Olefins from Amines: The Hofmann Elimination Reaction and Amine Oxide Pyrolysis." The format of this volume does not differ from its predecessors. Each chapter critically surveys a particular reaction, and contains a general discussion of method, modifications, examples of applicability, special precautions, a detailed description of the procedure, expected yields, and other pertinent data. Tables have been compiled for each chapter, listing compounds prepared by—or subject to—the reaction under discussion in that chapter.

Enzymes In Health And Disease, *Edited by David M. Greenberg, Ph.D., and Harold A. Harper, Ph.D., University of California School of Medicine, and 26 contributors, 459 pp., Charles C. Thomas—Publisher (1960), cloth,* **$14.50.**

Out of the combined practical experience of these laboratory scientists and clinicians comes a critical review of: Chemical properties and mechanisms of enzyme action; importance of enzymes in relation to heredity and hereditary molecular diseases; interrelations between enzymes and hormone action; enzymatic aspects of lipid metabolism; diseases of lipid metabolism; enzymatic aspects of neurological and mental diseases; enzymes in neoplastic diseases; enzymes in diseases of the eye; enzymes in blood coagulation; effects of drugs on enzyme systems; and clinical use of enzymes for diagnosis and therapy.

Hypnosis In Skin And Allergic Diseases, *by Michael J. Scott, B.S., M.D., Instructor in Medicine, University of Washington School of Medicine, 161 pp., Illus., Charles C. Thomas—Publisher, Springfield, Ill. (1960), cloth,* **$6.50.**

The phenomena of hypnosis are discussed as well as some of the more important theories that endeavor to explain it. An intensive and detailed description of various hypnotic induction techniques is given, in most instances, a verbatim report of an actual induction. Suggestions for induction are punctuated with descriptions of effects that indicate compliance with the suggestions. The conduct and sequence of the therapeutic sessions is discussed in detail. Actual photographs depict various phases of hypnotic inductions and effects. Applications to dermatologic and allergic conditions are presented. The author has included a list of the conditions for which he has found hypnotherapy effective. Included also are some general conditions that specialists may be required to treat.

Chemobiodynamics and Drug Design, *by F. W. Schueler, Ph.D., Professor and Chairman, Department of Pharmacology, Tulane University School oof Medicine, 638 pp., The Blakiston Div., McGraw-Hill Book Co., Inc., New York (1960), cloth,* **$19.50.**

This book applies the principles of chemical control in biology to the problems of drug design. The material presented is distinct from that usually presented in pharmacology texts because it considers the basic chemical-biologic aspects of drugs and drug action, rather than the over-all therapeutic aspects. The book presents in an integrating, evolving way the nature of chemical control in biology, and considers many new theoretical concepts and new ways of dealing with older concepts. The author has provided a volume that serves as a text for students interested in the relationship between chemical constitution and pharmacologic activity, which today represents one of the most rapidly expanding fields of interest, especially for pharmacologists, pharmaceutical chemists, and many organic chemists. As a text, the division of the book into two parts serves appropriately the needs of graduate teaching in general pharmacology and in pharmaceutical chemistry. Part I emphasizes the structural and functional relationship of chemistry to biology and its antecedents; Part II emphasizes the nature of drug design as an activity preceding drug synthesis.

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(*Continued from page 39*)

other pathological changes were exhibited in 50 animals in each series, compared with control animals, after five months of topical application.

Dr. John Strauss in "The Current Status of Acne Management," discusses the pathogenesis of acne based upon histologic studies and correlated with other information on the natural history of the disease, in an effort to point out where new approaches to the therapy should be sought. Particular attention was paid to the correlation of these findings with the existing methods of treatment.

Emphasis was placed upon recent findings concerning the effect of the various hormones upon the human sebaceous glands. The effects of androgens, estrogens, and progestins on the human sebaceous glands, and any interactions that may exist between these hormones were discussed. These findings were correlated with the clinical use of hormonal systems in the therapy of acne.

Ultrasonic processing equipment was discussed by *Dr. Donald M. Skauen* and *Dr. Harold M. Beal* with particular reference to dispersing and emulsifying types. In addition, data were given on the effect on emulsions of increasing batch sizes. Results of experiments comparing several conventional homogenizers with the Minisonic were described.

Dr. J. Y. Oldshue discussed "Scale-Up Problems with Impeller Types of Fluid Mixers in Cosmetic Processing." Fluid mixers are common items of process equipment in the cosmetic industry. Many times it is desired to scale up data obtained on laboratory and bench scale equipment.

A brief review of mixing theory and practice served as a basis for the scale-up discussion. The characteristics of propellers, turbines, and paddles were discussed as well as the role of baffles. The viscosity characteristics of the fluid affect scale-up considerations. The fluid mechanics involved in scale-up theory as well as practical methods of scale-up were covered.

Laboratory experiments are sometimes conducted in tanks that are very dissimilar to commonly used large scale equipment. The value of data taken in unbaffled round bottom flasks, beakers or high speed disintegrators for scale-up work was covered. One of the most important criteria is to define the mechanism of the process under consideration.

John J. Fischer covered the "Application of the Twin Shell Mixer in Liquid-Solid and Solid-Solid Cosmetic Formulations." Physical problems of blending pigments, perfumes, extenders, talc and similar cosmetic ingredients are much like those encountered in other industries. Step-by-step development has led to sophisticated tumble blenders with attrition devices and liquid dispersion equipment. The twin-shell is one of these.

Cycles can be shortened and materials handling reduced by combining operations. Flow properties of particles can be improved. Difficult materials can

be blended with precise uniformity by adjusting process variables.

DRUGS: INTERNATIONAL EXPLOSION

(*Continued from page 43*)

accounted for a whopping 42 per cent of the company's total net.

Sterling Drug Company. Another major on the international front, Sterling acquired subsidiaries in Belgium, The Netherlands, and Switzerland in 1959, and now has 52 subsidiaries and divisions operating in 32 countries outside the U. S. Sterling manufactures in 27 overseas plants. Foreign sales of $62,000,000 account for 30 per cent of total volume, foreign income of $5,000,000 accounts for 24 per cent of total net.

Richardson-Merrell Company. Formerly Vick Chemical and an old hand in international business, the company last year sold 210,000,000 packages of its products through some 500,000 stores throughout the world. International sales, covering 117 countries, rose last year from $21,500,000 to $25,200,000, representing 22 per cent of total volume.

Warner-Lambert Pharmaceutical Co. Worldwide sales, which first crossed the $100,000,000 mark in 1955, will cross the $200,000,000 in 1960, with international sales accounting for 25 per cent or $50,000,000 of this total. Warner now derives nearly 40 per cent of its total net income from foreign operations and more than 65 per cent of this big international business is in pharmaceuticals.

Two other drug producers with important international operations are E. R. Squibb & Sons, a division of Olin Mathieson Chemical Corp., and Lederle Laboratories, a division of American Cyanamid Co. Figures are not available publicly, but it is known that Squibb and Lederle each have volumes in excess of $100,000,000—Lederle's actually exceeds $150,000,000—and it is safe to assume that each does more than $25,000,000 worth of foreign business.

The international sector is expected to become increasingly important in the years to come. With access to foreign markets, a company widens its sales horizons considerably. Take Chloromycetin, the Parke, Davis broad-spectrum antibiotic. U. S. sales of Chloromycetin were an estimated $40,000,000 in 1959. However, the product did yet another $40,000,000 in sales outside the U. S.

There is, right now, a great rush to get on the international bandwagon. Over the past five years U. S. drug companies have been active all over the globe, setting up new subsidiaries and acquiring others by buying out local producers. The last of the major U. S. companies to join this gold rush is The Upjohn Co. of Kalamazoo. Upjohn has long been one of the top U. S. producers of ethical drugs but, until 1958, it was not a public company and it had never shown

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much interest in international operations. Upjohn's foreign sales last year were $17,500,000, lowest of all the top five U. S. companies. The company now hopes to change this isolationist image. It has an international development program under way; its first plant on the continent of Europe is currently under construction at Puurs, a small Belgian town south of Antwerp.

Among all companies engaged in international marketing, whether they be drug or not, the big trend these days is toward local manufacturing, rather than export out of the U. S., and local autonomy, rather than a U. S.-centralized program. As markets overseas grow larger, it requires larger and larger units in the field to service this business. Also, countries overseas are eager to build up their own productive facilities. In Europe, for example, the advent of the Common Market has given a favored position to companies with production facilities in the area. Products coming from the outside will bear heavy duties. These are the basic reasons why U. S. drug companies have been so active recently in acquiring foreign producers or establishing their own subsidiary plant operations.

Perhaps no company has foreseen these trends more clearly than Brooklyn-based Chas. Pfizer. In 1951, Pfizer was a $100,000,000 company and it did not make a single product outside of the U. S. By 1959, Pfizer sales had risen to $250,000,000 and its foreign sales alone had passed its total 1951 volume. As of Nov. 30, 1959, Pfizer had $80,000,000 in net assets abroad. Pfizer products are today distributed in more than 100 countries; moreover, they are actually manufactured in Argentina, Australia, Belgium, Brazil, Canada, Ceylon, Chile, Colombia, France, Germany, Great Britain, India, Italy, Japan, Mexico, Pakistan, the Philippines, Spain, Sweden, and Turkey.

This fantastic growth, carried out under the direction of John J. Powers Jr., has been accomplished through an aggressive program of decentralization. Instead of seeking out distributors or affiliations with local companies, Pfizer has insisted on having its own operations abroad and running them as strong local companies. In some countries, notably Great Britain, it has gained a strong foothold by acquiring local companies and expanding their operations. In other places it has started from scratch by building its own manufacturing operations. All of the Pfizer subsidiaries naturally benefit from the company's U. S. experience. Rather than being wholly dependent on this crutch, however, they are strongly entrenched in their markets on their own operating power.

Other companies also are moving in this direction. Harry J. Loynd, president of Parke, Davis, was in Tokyo last November 18 to announce that his company was joining hands with a leading Japanese drug maker, Sankyo Kabushiki Kaisha, to form a jointly owned company—Parke, Davis & Sankyo

Kabushiki Kaisha. The new company will manufacture Parke, Davis antibiotics, vitamins, hormones, and steroids in Japan. Sankyo had already had a long relationship with P-D, serving as a distributor and licensee of the American company. However, this relationship now rests on a much stronger financial footing. It exemplifies a world-wide trend.

Drug companies interested in expanding abroad will find that they can get a helping hand these days from the U. S. Department of Commerce and other government agencies, which are eager to see more American companies selling abroad. For example, the U. S. Embassy in Saigon recently helped some 25 U. S. manufacturers stage a week-long exhibition of pharmaceuticals and hospital equipment. The Vietnam exhibition attracted some 5,000 visitors, including more than 500 doctors and pharmacists. This was considered an important showing because the Vietnamese doctors are virtually all French-trained and prefer the French drugs with which they are familiar. This exhibit, incidentally, again pointed up the advantage of a strong local operation. Pfizer had its own company, Vinamyd, in charge of its display, while other U. S. companies had to rely on local distributors. In this case, Lederle, Lilly, Schering, and Squibb all had the same distributor.

From a long-term point of view, underdeveloped areas such as Vietnam represent the greatest market potential for drugs, although attention today is naturally riveted on the more advanced areas such as Western Europe. Outlining directions for the future, however, Abbott Laboratories recently drew this picture:

"With each new dawn in 1960, about 125,000 more human beings will be living somewhere on the earth. By the start of 1961 nearly 46,625,000 more persons—or approximately another France—will be added to world population.

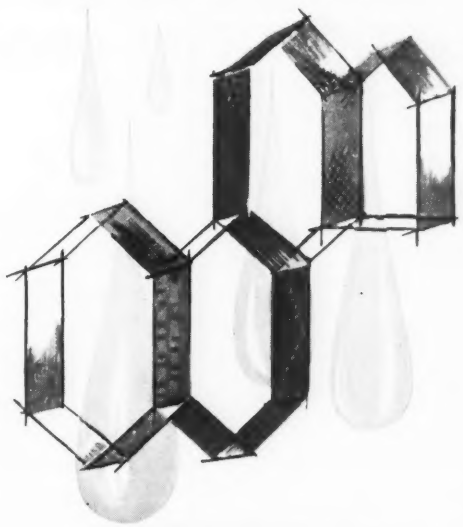
"In the '60s it is likely that between 450,000,000 and 550,000,000 additional individuals will enter the ranks of the world's peoples—perhaps as many as three times the present population of the United States.

"So more people are coming, and more will be living longer. In most countries the death rate is dropping. Essentially, it is the fantastic decline in death rates that is spurring the population rise. Medical science is inexorably blocking early death, many diseases, and disability, even in backward lands.

"These advances have special meaning to Abbott Laboratories, with its growing and diversified markets abroad. The sheer scope of health needs throughout the world challenges the imagination. We see on every hand how these needs have been met in the United States—but the United States has only 6 per cent of the world's population.

"The needs of health transcend national boundaries, and once met, can begin the transformation of backward peoples." •

for Penetration



ACETULAN®

spreading and penetrating emollient...leaves soft after-feel on skin and hair

ACETULAN is a 100% active liquid fraction of acetylated lanolin alcohols with remarkable spreading, penetrating, lubricating and solubility characteristics. This low-viscosity emollient fluid, made by our exclusive process, actually seems to disappear into skin and hair. It imparts persistent hydrophobic films with excellent softening and conditioning properties.

ACETULAN's superior penetrating and emollient properties plus its ability to prevent viscosity changes in emulsions make it an extremely beneficial component of many products. The following illustrate ACETULAN's versatility in various applications:

- spreading agent and emollient for creams, lotions and baby products
- co-solvent and plasticizer for aerosol hair sprays and make-up
- lubricant and compressing aid for talc and powders
- non-volatile solvent for many antiseptics and for sebum in acne preparations
- forms persistent films for sunscreens
- for hypo-allergenic cosmetics and specialties

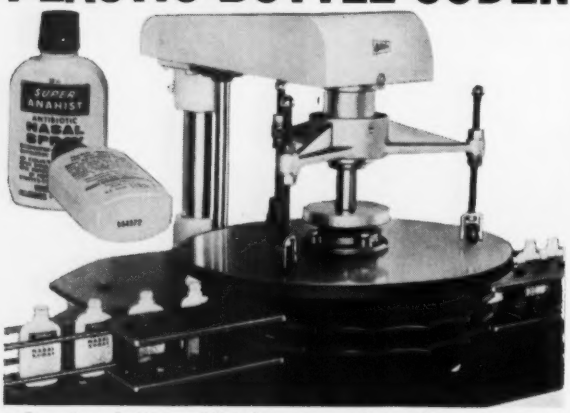
Complete technical data, samples, and suggested formulas are available from our research laboratories.

Amerchol

AMERICAN CHOLESTEROL PRODUCTS, INC.

Amerchol Park • Edison, New Jersey

New High-speed, Conveyor-line PLASTIC BOTTLE CODER



• Imprints bottom of bottles at speeds to 600 per minute • Uses special instant-dry ink for permanent adhesion to plastic • Does not require cutting of line . . . no dead plates needed • Handles empty bottles as well as filled, in continuous or intermittent flow • Quickly adjustable for different sizes without use of change parts • Fits in minimum space — needs only 30" • Has automatic "no jam" feature • Can be moved from one line to another • Install it yourself in a few hours.

Write today for details on "TB Plastic Bottle Coder"

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines — Gottscho®

GOTTSCHO Dept. C
HILLSIDE 5, N. J.

In Canada: Richardson Agencies, Ltd. • Toronto & Montreal

Neomycin Sulfate U.S.P.

(Regular Powder or Micronized Powder)
(An antibiotic with an unusual degree of stability for topical, oral and parenteral use.)

Hydrocortisone Acetate Alcohol U.S.P.

(Regular Powder or Micronized Powder)

Vitamerican Corporation
1 John Street, Haledon
Paterson 2, New Jersey

A dependable source for hormones & fine chemicals

(*Continued from page 34*)

prices in compensation for self-selection and cash-and-carry. If the coming year brings violent local price wars, as has happened in this highly competitive trade, will the broad margins of the cosmetic industry be vulnerable to attack?

The new vigor of the variety store is being felt in cosmetic sales. A strong program of trading up by some chains brings new problems to certain cosmetic companies.

Suburban department stores and specialty stores are a new and valuable means of distribution for this industry, but they have brought problems, too. Some cosmetic manufacturers using a rigid franchise distribution have been embarrassed by long-established franchise customers opening branches in territories franchised to other old customers. Suburban department store development seems still in a state of vigorous growth.

It will take alert sales exploration and management to keep up with changes in retail distribution. There will be new shopping centers and the passing away of those that are badly planned or financed. The closed-door discount house may challenge the now respectable discounter. New highway stores may disrupt shopping centers and suburban stores. Mass or class, franchise or open, cosmetic manufacturers will find things happening in retail competition that will pose plenty of sales problems. Probably there will be pressures on cosmetic manufacturers to identify their companies more clearly with a definite pattern of distribution.

In a more competitive period, price will more clearly seek a level of certain retailers. A growing and vital need for favorable retail relations and active store cooperation in selling will be felt. A need to identify a company and product image with certain retailers—in fashion or gifts, for instance—will be important to many manufacturers. Perhaps even a new political climate among the regulatory agencies will have some such influence.

During 1960 there were strong signs of drastic reappraisal of distribution by a number of cosmetic manufacturers. There are many solid reasons why this new appraisal will be important in 1961.

This past year will add another gain to the percentage of cosmetic sales going to house-to-house selling. The remarkable strides of this part of the industry, both in America and abroad, over the past decade has been a source of envy and amazement to many in this industry who are harassed by continually changing retail problems. Only an industry in exuberant growth can support these huge gains in house-to-house selling and still maintain a healthy expanding retail structure. Happily, the cosmetic industry has so many promising avenues for expansion that there appears to be no reason why the present amicable balance should not flourish and bring prosperity.

Personal selling in actual stores is no longer an

issue in the cosmetic industry. It has been reasserted with great vigor—so much so that variety stores are using personal selling, and one leading cosmetic manufacturer is experimenting with demonstrators in a supermarket chain.

The heart of personal selling of cosmetics is the department and specialty store, and a limited number of drugstores. Such stores provide a suitable sales environment for the full range of cosmetics and perfumes. It is here that a cosmetic clientele can be established and it is here that cosmetic prices and the average unit sales price will support skilled, professional selling.

The cosmetic industry now uses two clearly defined methods of selling.

One group of manufacturers sells in a pattern of selected or franchise retailers and seeks the utmost in retail cooperation.

The mass distributors, on the other hand, employ all of their selling resources to influence consumer buying with little actual attention to seeking dealer favor. As a result, and because of the great retail dilution of their products, their position in stores committed to the heavy financial burden of personal selling is uniformly weak.

During the booming Fifties many valiant efforts were made to straddle both of these markets. It may now be said that these efforts have been uniform failures and have provided the principal reason for the sickness or death of many fine cosmetic names.

It has always been hazardous to get caught in the middle in these two basically different ways of selling cosmetics. With sharpened competition to be expected in the coming year, we think it will be even more dangerous.

It is lucky for this industry that competent, professional selling of cosmetics and perfumes in the fine cosmetic stores has so vigorously justified itself in the face of the clamor for self-service. It would not be wise to underestimate the vast influence of this selling and education on every avenue, path, and byway of the industry.

Without personal selling, and the kinds of stores and products that make personal selling possible, the cosmetic industry would be rather drab, and, we are quite sure, far less important in American life.

PATENT THOUGHTS AND TRENDS

(Continued from page 67)

ing a process patent where the patent owner sold a chemical for use in that process and exacted a two-cent royalty per pound of unpatented chemical, if the purchaser uses the chemical in the process, but no fee is exacted if the user desires to purchase the material for unpatented uses. If the user desires, he may purchase the unpatented chemical from another source on payment of the two-cent license fee.

for Solubilization

SOLULAN®

water and alcohol soluble lanolin derivatives...leave emollient films on skin and hair

THE SOLULANS are 100% active emollient ethoxylated lanolin derivatives. Their unique chemical structure induces solubilization of many otherwise water-insoluble substances and, at the same time, adds valuable conditioning properties to cosmetics and pharmaceuticals. Only the SOLULANS provide this remarkable combination of effects.

Although the SOLULANS are water soluble, they leave persistent emollient films which resist washing away. We have obtained this unusual property by giving them a hydrophobic toe-hold in the shape of lanolin sterols and/or acetyl groups.

SUGGESTED APPLICATIONS

- lotions and creams
- aerosols
- antiperspirants
- shaving preparations
- make-up
- shampoos
- rinses
- cold waves
- hair dyes
- other treatment preparations

Complete technical data, samples, and suggested formulas are available from our research laboratories.

Amerchol

AMERICAN CHOLESTEROL PRODUCTS, INC.

Amerchol Park • Edison, New Jersey

Another recent case favorable to patentees is the 1956 decision of the aforementioned Second Circuit Court of Appeals. The case involved a patent for an electrical heating system. The owner of the patent designed the system to meet the individual needs of the customers and, when necessary, it designed and modified the components of the system according to its own specifications, instructions for the installation being furnished and the final installation being inspected. A performance guaranty that the system will work was also given to the licensees.

The court said that the Mercoid case did not apply, because there the patent owner merely sold the unpatented components and did not give specialized services. The court refused to pass on the question of whether section 271 (d) changed the Mercoid decision, in effect side-stepping the issue.

Another 1956 decision, this by the Federal District Court in Chicago, expressly ruled that the Act of 1952 makes proper and lawful that which under the doctrine of the Mercoid case would have been a misuse of the patent. The court found that neither the patent owner nor its licensees sold the patented system, but sold the unpatented components with an implied license to use the patented system.

The court found that the unpatented component before it was a material part of the invention and was not a staple article of commerce suitable for substantial noninfringing use.

Perhaps the most authoritative and pertinent case under the new act is the 1957 decision of the Fourth Circuit, U. S. Circuit Court of Appeals.

In that case the patent owner sold Nabam, an unpatented fungicide. The patent covered a process of controlling fungus by applying to living plants a fungicidal composition having Nabam as an active ingredient.

The court expressly ruled that the 1952 Act, which made new uses of old materials patentable, materially changed the previous law that denied enforcement of the patent against competitors selling unpatented parts or components for use in a patented combination or process. *However, the court was careful to point out that this new result is limited to situations in which the unpatented material is not a staple article of commerce.*

Conclusion

While, as already noted, the U. S. Supreme Court has not spoken on the subject and, therefore, there is no real final authoritative ruling, it is believed to be a reasonably safe position to assume that the wording of the patent law Act of 1952, Section 271 (c) and (d) will be given full judicial sanction in proper cases. It is felt that such cases are those in which competitors sell unpatented parts or ingredients of patented machines, compositions or processes, where such unpatented parts or ingredients are not staple articles of commerce capable of a substantial noninfringing use. One can get into debates as to what, in close cases, are or are not staple articles or substantial or nonsubstantial infringing uses, but nothing fruitful would be gained by doing so at this time.

RECENT PATENTS

2,956,058—Eli Lilly and Company—Novel Substituted Piperidines and Pyrrolidines.

2,936,061—Societa Farmaceutici Italia—Preparation of Murexine.

2,956,062—A. H. Robbins Company—Esters of Amino Alcohols.

2,956,061—Upjohn—1,4-Benzodioxepine-2,5-(3H)-Dione.

2,956,072—Chas. Pfizer — N-(1-Naphthyl)-N′-(β-Substituted Ethyl)-Ureas.

2,956,077—Abbott Laboratories—Ester of Methylenecyclopropane-Carboxylic Acid.

2,956,081 — Riker Laboratories — N-Amido-Glycylamides.

2,956,922—Merck—Protection of Growing Plants.

2,956,924—Chas. Pfizer—Coccidiosis Treatment Compositions Containing Triazine Derivatives and Method for Using Same.

2,956,925—Wilfred E. Wooldridge—Antifungal Antibiotic From S. Coelicolor Var Aminophilus.

2,956,927—Helene Curtis Industries—5,5′Dialkylhydantoin-Formaldehyde Resin Aerosol Hair Spray.

2,956,996—Smith, Kline & French Laboratories—Alkylated Phenothiazine Carboxamide Derivatives.

2,956,997—Geigy Chemical Corporation — Substituted 3,5-Dioxo-Tetrahydro-1,2,6-Thiadiazine-1, 1-Dioxides.

2,956,998—S. B. Penick — Adenine Derivatives and Process for Preparing.

2,956,999—Les Laboratoires Francais de Chimiotherapie —Aromatic Derivatives of Deserpidine and Process of Producing Same.

2,957,002—Upjohn — 6-Lower Alkyl Carboxamidobenzothiazole-2-Sulfonamide.

2,957,003—Nalco — Imidazolines and Imidazolinium Salts.

2,957,011—G. D. Searle—17-Oxygenated 1-Alkoxy-4-Methylestra-1,3,5(10)-Trien-16-Ones and Intermediates.

2,957,012—Chattanooga Medicine Company — Substituted Benzenesulfonelhydrazones (A).

2,957,021—Chattanooga Medicine Company — Nitrate Esters of Amino Alcohols and Salts Thereof.

2,957,805—Warner-Lambert — Therapeutic Compositions for Oral and Parenteral Administration.

2,957,810—Upjohn—Neomycin Fermentation Medium.

2,957,838—Monsanto—Hair Spray Composition Containing Lower Alkyl, Half Ester of an Ethylenemaleic Anhydride Copolymer, Alcohol and Propellant and Process for Making.

2,957,866—W. R. Grace—Strychnos Hydrazinium Compounds.

2,957,867—Ciba—1,5-Benzodiazepin-4-Ones.

2,957,868—Ciba—Δ^{15}-Etiocholenic Acid Esters.

2,957,869—Upjohn — Hydroxybenzylidineaminorhodanines.
2,957,870—G. D. Searle—Phenothiazinealkylpiperidinecarboxamides.
2,957,872—Ciba—Phthalimidines and Process for Manufacturing same.
2,957,873—W. R. Grace—Aralkylhydrazinium Salts.
2,957,875—Upjohn—Derivatives of Purine.
2,957,876—W. R. Grace—N-Aminopiperidinium Salt.
2,957,878—Ciba—18-O-Esters of Methyl Reserpate.
2,957,879—Ciba—Substituted 2-Diphenylmethyl-Piperidine Compounds.
2,957,881—Ciba—New Acylpiperidines.
2,957,882—Hoffmann-La Roche—1-Picolinoyl-2-Benzylhydrazine Lower Alkyl Halides.
2,957,883—Merck — Sulfamyl Derivatives of Certain Saccharines.
2,957,893—Schering—$\Delta^{1,4,9(11)}$-Pregnatrienes.
2,957,896—G. D. Searle—1-(Oxygenated Butyl)-2-Oxygenated 1,2,3,4,4a,4b,5,6,7,9,10,10a - Dodecahydrophenanthren-7-Ones.
2,958,631—Schering—Hydroxylated Steroids and Methods for their Manufacture Using Bacillus Megatherium.
2,958,632—Schwarz Laboratories—Process for Recovery of Highly Active Stable Substantially Sterile, Soluble, Proteolytic, Enzyme Composition from Commercial Crude Papain.

MEN'S FRAGRANCES

(Continued from page 48)

in a perfume will create a definite aura of sex appeal peculiarly appreciated by women. Specifically, look at what castoreum will do in a tuberose.

Let's face it. A man's sexuality is very important, but his modern attitude reflects our social prejudices. The crudity of the beaver's technique may be abhorrent, but look at some of the horrible concoctions man has smeared on himself to develop his sex attraction. Actually, a large proportion of men are rather timid in their exploration of their sex appeal; they need the fragrance effect to fortify their self-confidence.

The use of feminine sex appeal to sell a men's line seems to produce only temporary results.

Consider the men's line that once featured sports equipment in its art work. The style was switched to include pretty girls. The implication was that by using the product the girls would swoon in ecstacy. Sales zoomed for a while. But the "kick" of the change wore out, largely, I feel, because feminine sex appeal has become so commonplace in advertising that it quickly wears threadbare.

It seems to me that this and other such campaigns have been misdirected. The emphasis should be on the man himself. It should flatter his ego; build up his self-confidence. It should create around him the illusion of powerful, rugged, but not coarse, mascu-

(Continued on page 115)

for Unsaturation

POLYLAN®
and
RICILAN®

Unsaturates with Remarkable Penetration and Emollient Effects

POLYLAN and **THE RICILANS** are completely new formulating materials for the cosmetic chemist. They are 100% active glyceride-free liquid waxes with unusual emollient, penetrating and spreading properties.

POLYLAN is the unique polyunsaturated ester of selected lanolin alcohols and the essential fatty acid, linoleic. In POLYLAN a high level of beneficial unsaturation has been achieved (Iodine no. 120) without sacrificing stability.

THE RICILANS are polymeric unsaturated hydroxy esters of selected lanolin alcohol and castor oil components. By balancing hydrophobic and hydrophilic groups, the RICILANS gain valuable new properties, not present in the natural products used as starting materials.

POLYLAN and **RICILAN** add emollient and conditioning effects as well as gloss, color enhancement and a soft waxy after-feel to products such as:

- lipsticks
- aerosols
- creams
- lotions
- hair preparations
- treatment products

Complete technical data, samples, and suggested formulas are available from our research laboratories.

Amerchol
AMERICAN CHOLESTEROL PRODUCTS, INC.
Amerchol Park • Edison, New Jersey

COMING EVENTS . . . . .

JANUARY 1961

16-19 **Instrument Society of America,** Winter-instrument-automation conference, St. Louis, Mo. (W. H. Kushnick, 313 Sixth Ave., Pittsburgh 22, Penna.)

23-26 **Plant Maintenance & Engineering Conference and Show,** International Amphitheatre and the Palmer House, Chicago, Ill. (Clapp & Poliak, Inc., 341 Madison Ave., N. Y. C.)

24-27 **Society of Plastics Engineers,** annual technical meeting, Shoreham and Park Sheraton Hotels, Washington, D. C.

25-27 **Association of American Soap and Glycerine Producers,** annual meeting, Waldorf-Astoria Hotel, N. Y. C. (A.A.S.G.P., 295 Madison Ave., N. Y. C.)

FEBRUARY

3 **Parenteral Drug Assn.,** scientific meeting (evening), Statler-Hilton Hotel, N. Y. C. (P.D.A. 1420 Snyder Ave., Philadelphia 45, Penna.)

7-9 **Society of the Plastics Industry,** reinforced plastics conference, Edgewater Beach Hotel, Chicago (S.P.I., 250 Park Ave., N. Y. C. 17)

8-10 **Pharmaceutical Manufacturers Assn.,** Law Section, Boca Raton Club, Boca Raton, Fla. (Dr. Karl Bambach, P.M.A., 1411 K Street, Washington 5, D. C.)

13-15 **Pharmaceutical Manufacturers Assn.,** central regional meeting, Edgewater Beach Hotel, Chicago, Ill. (Dr. J. O'Neill Closs—see above.)

20-21 **Pharmaceutical Manufacturers Assn.,** western regional meeting, Ambassador Hotel, Los Angeles, Calif. (Dr. J. O'Neill Closs—see above.)

23-24 **National Beauty and Barber Manufacturers' Assn.** annual convention, Hotel Statler-Hilton, N. Y. C. (N.B. and B.M.A., National Press Bldg., Washington D. C.)

25 **American Institute of Chemical Engineers,** annual meeting and petrochemical exposition (to March 1), Municipal Auditorium, New Orleans, La. (A.I.C.E., 25 W. 45th St., N. Y. C.)

28 **Wayne State University College of Pharmacy and the Michigan Branch, American Pharmaceutical Assn.,** pharmacy seminar, McGregor Memorial Conference Center, Detroit, Mich., (Dr. Wm. L. Blockstein, College of Pharmacy, Wayne State Univ., Detroit, Mich.)

MARCH

1-3 **Pharmaceutical Manufacturers Assn.,** Medical Section, Ponte Verdra Club, Ponte Verdra, Fla. (Dr. Karl Bambach —see above.)

2 **Drug, Chemical and Allied Trades Assn.,** annual dinner and symposium, Waldorf-Astoria Hotel, N. Y. C. (Miss Helen L. Booth, D.C.A.T., 1 Liberty St., N. Y. C. 5)

2-3 **Federal Wholesale Druggists' Assn.,** mid-year meeting, Statler-Hilton Hotel, N. Y. C. (R. C. Schlotterer, F.W.D A , 2 Lexington Ave., N. Y. C. 10)

8-10 **Pharmaceutical Manufacturers Assn.,** Medical Section, Ponte Vedra Club, Ponte Vedra Beach, Fla. (Dr. Karl Bambach—see above.)

15-18 **Pharmaceutical Wholesalers Assn.** convention, Las Vegas, Nev.

17 **St. John's University College of Pharmacy,** annual pharmacy congress, University Campus, Jamaica, L. I. (Annual Pharmacy Congress, St. John's University, Jamaica 32, N. Y.)

20-31 **Purdue Univ. Industrial Packaging Institute,** industrial packaging short course, Purdue Univ., Lafayette, Ind. (Mark E. Ocker, Memorial Center, P.U., Lafayette, Ind.)

21-30 **American Chemical Society,** spring meeting, St. Louis, Mo. (A. T. Winstead, A.C.S., 1155 Sixteenth St., N.W., Washington 6, D. C.)

31 **Packaging Institute and the National Paper Box Manufacturers Assn.,** symposium on set-up boxes, Sheraton Hotel, Philadelphia, Pa. (Chas. A. Feld, P.I., 342 Madison Ave., N. Y. C. 17)

APRIL

10-13 **American Management Assn. National Packaging Exposition and Conference,** Lakefront Exposition Hall, Chicago, Ill. (A.M.A. Nat. Pack. Exposition, 1515 Broadway, N. Y. C. 36)

20-21 **Society of the Plastics Industry,** western section conference, del Coronado Hotel, Coronado, Calif. (S.P.I., 250 Park Ave., N. Y. C. 17)

21 **Parenteral Drug Assn.,** scientific meeting (all-day session) Edgewater Beach Hotel, Chicago, Ill. (P.D.A., 1420 Snyder Ave., Philadelphia 45, Penna.)

23-27 **Society of American Bacteriologists,** annual meeting, Morrisson Hotel, Chicago, Ill., preceded by a Symposium on Marine Microbiology (April 20-22) co-sponsored by the **Office of Naval Research** and the S.A.B. (J. C. McCaffrey, Ill. Dept. of Public Health, 1800 W. Fillmore St., Chicago 12, Ill.)

23-28 **American Pharmaceutical Assn.** annual meeting, Hotel Sherman, Chicago, Ill. (F. V. Porkorny, A.P.A., 2215 Constitution Ave., N.W., Washington 7, D. C.)

30 **Pharmaceutical Manufacturer's Assn.** annual meeting (to May 3), The Greenbrier, White Sulphur Springs, W. Va. (See above.)

MAY

2-9 **International Packaging Exhibition,** Amsterdam, Holland (Verpakkingsbeurn, Tesselschadestraat 5, Amsterdam, Holland)

4-7 **National Industrial Pharmaceutical Research** annual conference, King's Gateway, Land O'Lakes, Wis.

9-11 **Toilet Goods Assn.,** convention, and Scientific Section meeting (May 11), Waldorf-Astoria Hotel, N. Y. C. (Kathryn Fitzpatrick, T.G.A., 1270 Avenue of the Americas, N. Y. C. 20)

11 **Pharmaceutical Conference,** tenth annual, Rutgers Univ. College of Pharmacy, Newark, N. J.

12 **Society of Cosmetic Chemists,** semi-annual meeting, Biltmore Hotel, N. Y. C. (S.C.C., 2 East 63 St., N. Y. C. 21)

14-17 **Flavoring Extract Manufacturers Assn.** annual meeting, Savoy-Hilton Hotel, N. Y. C. (John S. Hall, Hickery & Hall, 1051 First National Bank Bldg., Chicago 3, Ill.)

14-17 **The Proprietary Assn.,** annual meeting, The Greenbrier, White Sulphur Springs, West Virginia (P.A., 810 Eighteenth St., N. W., Washington 6, D. C.)

15-17 **Chemical Specialties Manufacturers Assn.,** annual meeting, Mayflower Hotel, Washington, D. C. (C.S.M.A., 50 E. 41st St., N. Y. C. 17)

22-25 **American Society of Design Engineers,** Design Engineering Show, Cobo Hall, Detroit, Mich. (Clapp & Poliak, Inc., 341 Madison Ave., N. Y. C. 17)

22-26 **American Society of Tool and Manufacturing Engineers,** Engineering Conference and Tool Show, New York City Coliseum.

JUNE

4-7 **Annual National Industrial Pharmaceutical Research Conference,** King's Gateway, Land O' Lakes, Wisconsin, Extension Services in Pharmacy, University of Wisconsin (Richard S. Strommen, E.S.P., 301 Chemistry Bldg., University of Wisconsin, Madison, Wisc.)

5-9 **Society of Plastics Industry,** National Plastics Exposition and annual national conference, Coliseum and Hotel Commodore, N. Y. C. (S.P.I., 250 Park Ave., N. Y. C. 17)

12-29 **Rochester Institute of Technology,** annual statistical quality control intensive courses for the chemical and processing industries, staff from American Society of Quality Control, Chemical Division, (industrial statistics and quality control, 12-21; design of experiments, 22-29; applications seminar, 20-21) Rochester, N. Y. (Harold M. Kentner, Director, Extended Services, Rochester Institute of Technology, Rochester 8, N. Y.)

15-16 **American Chemical Society,** National Colloid Symposium, Univ. of Rochester, Rochester, N. Y. (A.C.S., 1155 Sixteenth St., N. W. Washington 6, D. C.) ●

(*Continued from page 113*)

linity—of a man's man, yet highly desirable to women.

Every man has a dream image of himself. Ask any experienced clothing salesman and he will tell you about the "dreamers," as he calls them—men who add about four inches to their chest measure, take off another four inches from their waistline and then give him an argument when faced with the tape-measure.

Let's face the fact that sex is right here in our midst. It is an integral aspect of men's toiletries. Why not frankly and boldly use it in their design, presentation, and promotion?

Although sex appeal and personality are both highly useful in preparing a successful promotional campaign, even the best laid plan would be a flop if the fragrance failed to live up to the promise of its publicity. Now let us turn to the fragrance, and see how sex appeal can be built into its formulation.

Such a fragrance must have great diffusiveness, be strongly pervasive and intensely attention-catching. It is often said of a color that it is eyecatching. Correspondingly a sexy fragrance is "nosecatching."

The famous spice cologne neatly demonstrates all these points, although doubtless its creator never thought of sex appeal when he designed it.

Diffusiveness is usually created by the use of esters such as benzyl acetate, amyl salicylate, and vetyvert acetate, or ester-containing essential oils like bergamot. Effective also are the macrocyclic musks such as Astrotone BR (Rhodia), Muscozon Extra (Verona), and Exaltone (Firmenich). A discreet use of such brilliant specialties as Rosottone Supreme (Penick) and Jasminal Extra (Verona) will contribute a strongly diffusing effect to a composition.

Pervasiveness is usually derived from the careful use of indol, skatole, and other materials with an offensive odor in high concentration. When this "offensiveness" is buried in the background of a formulation, it makes the total fragrance effect penetrating without unpleasantness—in other words, it gives pervasiveness. A few other materials such as galbanum and violet leaf absolute show similar effects, in small quantities.

Making a fragrance "nosecatching" is an art difficult to describe. One can only say that it is usually accomplished by clashing two different themes, for example, the play of vetyvert/patchouli versus rose/-jasmin.

Aldehydes do not seem to affect men in the same way they do women. They have often brought complaints of "acidity," Strangely enough from men but never from women. Perhaps the olfactory mechanism of a man's nose differs from that of a woman's.

Now, let us get down to cases: the concept and the execution of a couple of highly original but typically American masculine fragrances, starting with Florida water.

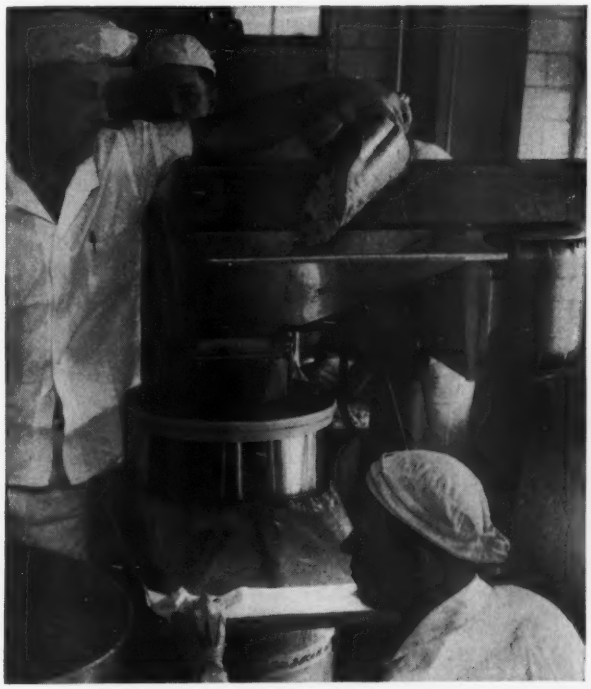
at Bristol Laboratories . . .

STOKES TORNADO MILLS CUT 30% FROM NALDECON DRYING TIME

Naldecon, a long acting nasal decongestant, is being manufactured faster thanks to a new process in which Stokes Tornado Mills figure prominently. With the Stokes Mills, Bristol realizes a 30% savings in drying time. With its large 360° screening area, the Tornado Mill can handle wet material quickly and easily. In addition to speeding drying, the Mills provide more even granulations of the material than the equipment formerly used.

The versatile Stokes Mills are used for both dry and wet granulations. Wet agglomerates are reduced to a uniform size before drying. Bristol reports they get better drying, improved product quality, greater product uniformity, and fewer fines.

Find out how the Tornado Mill can increase the efficiency of your operations. Stokes Advisory Service will run tests on a sample of your material . . . at no obligation. Call or write . . . today.



Operator loads one of three Stokes Tornado Mills which is used in the manufacture of Naldecon at Bristol Laboratories in Syracuse, N.Y.

Size Reduction Equipment Division

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Florida water, a thriving article of commerce in pre-colonial days, was manufactured principally in New Orleans.

It was originally compounded from the peels of wild bergamot, lemon, orange and lime, and an assortment of spices, rum, flower petals, and tobacco leaves. I have long felt that this typically American fragrance could be revived and re-dressed in modern form, with additional notes to "sex it up."

The following formula contains all the basic Florida water notes, combined with a precious wood effect made to sparkle with specifically designed floral compositions, and finished off with a traditional touch of tobacco in the form of the modern absolute.

The result of this elaborate structure is a bright, showy, "nosecatching" fragrance. It is as different from the run-of-the-mill fragrances as the spice cologne is from its competitors. Women as well as men appreciate its novelty. Whatever may be said of this odor, one thing cannot be denied: it certainly is provocative.

F. W. MODERN

5	Irone "S" 10% in DEP (Perf. Assoc.)
5	Citronelly oxyacetaldehyde (Verona)
5	Clary sage Russian
5	Jasmin acetate (Robertet)
5	Dimethyl octanol (Glidden)
10	Tabac Resinoide Incolore (Robertet)
10	Phenylethyl isobutyrate
15	Neroflor Extra (Verona)
15	Geranium Bourbon
15	Oil nutmeg
20	Sylviola (Penick)
25	Vetyverol
25	Oak Moss PC Standard (Perf. Assoc.)
25	Vetyvert acetate
25	Nerol "B" (Glidden)
30	Exaltone 10% in DEP (Firmenich)
30	Civetaine SC (Perf. Assoc.)
30	Oil limes distilled
30	Benzyl salicylate
35	Ylang Absolute Epuree (Robertet)
40	Amyl salicylate
40	Musk ambrette
45	Lilas blanches RE. 0615
50	Hydroxycitronellal extra
50	Hydratropyl alcohol
60	Oil lemon California
60	Oil bitter orange
60	Rose WN (Perf. Assoc.)
90	Carnation Base RE. 0616
125	Bergamot Hesperides Extra

Some rather exotic materials have been used. Neroflor Extra has been used in place of neroli because it contributes obscure notes of jasmin and sweet pea. Sylviola is used to create a combined precious wood and methyl ionone effect not ordinarily encountered in perfumery. The dimethyl octanol gives a striking variation on citronellol and serves to emphasize the later use of Rose WN. Nerol "B" creates a distinct recollection of the southern magnolia, which pleasantly contrasts the assorted citrus notes. The combination of Exaltone and Civatiane SC develops an unusual amount of pervasiveness. Hydratropyl alcohol avoids the cliche use of phenylethyl alcohol and offers, to my mind, a better rose leaf effect. The great number of ester-containing essential oils plus actual esters gives this formulation an immense degree of diffusiveness. The many contrasting effects involved also give it a powerful "nosecatching" quality. Thus all the factors needed to create a sexy fragrance are present.

Now let us consider another fragrance, "Smoke Rise," chosen because it is unusual, tremendously showy, and really has masculine sex appeal. A bit of preliminary discussion is necessary to set the full stage for its presentation.

On the range of the Rocky Mountains grows a prolific herb known as the wild blue sageflower. In the spring it literally blankets the ground with its pale blue flowers and odd arrow-shaped leaves. On a pleasant day its fragrance pervades the air for miles around—a unique fragrance resembling a bitterswet lavender combined with the sparkling pepperiness of green tobacco leaves.

Any westerner, be he cowboy or city bred, knows and loves the wild blue sageflower and its strange haunting fragrance. It is as much as part of the western plains as sunshine is to California. In fact, native-born westerners who have moved elsewhere often keep dried flowers and leaves in a porcelain jar, just as dried rose petals were kept in colonial days, to remind them of their days on the range.

The theme selected for this "Smoke Rise" men's cologne is the fragrance picture surrounding a western campfire, using the wild blue sage as its foundation.

Before sundown, the warm still air is pugnant with the fragrance of sage flower, grasses, leather riding equipment, and smoke from the dying embers, which rises in a slender column. Cowboys call this the "smoke rise," which is the source of the name.

SMOKE RISE

2	Methyl ionone
2	Aldehyde Cp12 MNA 10% in DEP
2	Phenethyl alcohol
2	Oil geranium Bourbon
2	Civetiane (Perf. Assoc.)
2	Resedalia (Verona)
2	Amyl salicylate
2	Petitgrain
4	Lilanthal (Verona)
4	Veronol 10% in DEP (Nerona)
4	Citronellol
4	Sandalwood E. I.
4	Oil cloves USP
6	Hexyl cinnamic aldehyde
6	Coumarin
6	Tincture ambergris 4/gal.
8	Linalyl acetate
8	Oil bergamot
8	Vetyvert Bourbon extra
16	Geranyl acetone (Roche)
24	Lavender 40/42
24	Linalool (Roche)
36	Clary sage Russian
36	Tobacco-amber RE. 0520
6	Leather blending base RE. 0519

Diffusiveness is created by the leather base, plus lavender and the number of esters present. Pervasiveness comes from the ambergris and clary sage.

The striking feature of this formulation is its use of the great contrast between tobacco and the balance of the formula. This makes the odor intensely nose-

catching.

Men are most appreciative of this fragrance. But so are women, for an entirely different reason. They say it smells just like a man. Most often, women say that a fragrance smells good on a man, but this time they say that it suggests the man himself, pleasantly but in a rather rough sexy manner.

If this series of articles on men's fragrances has set some to thinking and stirred up a few new ideas, I shall feel gratified.

ROTARY POWDER FILLER

(Continued from page 51)

Cartoner is used for cardboard packing of Polident containers.

The Frazier filler processes 144 three-ounce containers per minute, with a maintained accuracy of plus or minus ½ per cent. The same line is also equipped to handle a seven-ounce Polident container. Production is scheduled for long, continuous runs, and changeovers are made on nonworking days. The Frazier filler requires a minimum of change parts, with the switch to different size accomplished in about one and one-half hours.

Besides offering greater efficiency and savings in cost, the high degree of automation in the Polident line is in keeping with Block Drug's rigid quality control requirements for the product. "Because it is used as a personal hygiene aid," explains Mr. Quigley, "the greater protection offered by completely automatic processing is an essential factor."

THE PHARMACEUTICAL REVOLUTION

(Continued from page 36)

get extra compliance mileage out of each tax dollar spent—and it has always been able to take legal action as a last resort. I am sure that many cannot understand all this talk about FDA being too easy on industry.

Unfortunately, the situation has so deteriorated that there isn't much industry can do at the moment —except suffer in silence. The hard fact is that any compliment from industry on how FDA operates is considered by the investigators as a blackmark—and vice versa.

I have heard that some FDA staff members are combing their scrap books and files to count the number of times they have been denounced by industry people as arbitrary and unreasonable bureaucrats. The higher the count, the safer they are supposed to feel.

Regulation on Drug Warnings

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mail and detailing promotion pieces for prescription drugs. These may be promulgated before Mr. Flemming leaves the HEW, and FDA will move for prompt compliance.

FDA will move more slowly on its proposed regulation requiring the "authorized" package insert to accompany every prescription drug pacakge, including doctors' samples. Action on this one was postponed at the request of the A.M.A., with the hope that industry and the medical and pharmacy professions would be able to get together on an alternate plan that would get the information to medical men as well as to pharmacists. There has been little evidence of progress, however, in part because of the atmosphere of suspicion created at FDA by the Kendall group.

The Kennedy Administration will push for steady increases in NIH's medical research budget from the one-half billion dollars available this year to the $2 billion goal set by the Bo Jones report to Senator Hill's Appropriations subcommittee last May. Federal funds for the construction of medical schools and for medical student scholarships can be anticipated.

If you want to know where we are headed on federal medical research and education, read the 133-page Bo Jones report. It amounts to a blueprint for the future, because three of the committee members ended up on the Democratic Advisory Policy Committee that virtually drafted the health and medical planks in the party platform.

The new HEW Secretary will obviously want to take a look at the NIH topside to evaluate whether it can handle the giving away of more than one-half billion dollars of taxpayers' money. This requires a sense of sound public administration. The NIH—as has the FDA until recently—has lived a charmed life because it is administered by scientists and its purposes are worthy.

And what about Mr. Kefauver? Well, he has promised hearings on vitamins, and he has strongly suggested he wants to hear from the A.M.A. on his legislative proposals. After these hearings, I figure he will taper off on drugs and look for some other field. He must feel, by now, that he has just about worked all the easy veins he can get out of drugs.

His general counsel, Paul Rand Dixon, also may be looking for greener fields. He is reputed to have thoughts about the Federal Trade Commission chairmanship, another one of the early appointments Kennedy will have to make. He used to be with FTC and he reputedly has some old scores to settle with some of the staff members.

If Dixon does go back to FTC, it will be interesting whether he takes Dr. John Blair, Kefauver's chief economist, along with him. Blair, too, was once with FTC, where his popularity rating ran—and runs—about the same as it does now in the drug field.

Well, there is plenty to think about in that rundown of the early and scattered returns from Washington. Now let's take a look at industry's side.

The 25-Year Therapeutic Revolution

Despite all I have said until now, the important problems confronting the pharmaceutical industry today, in my view, are not primarily political in origin.

The emergence of the industry on the political stage, it seems to me, is only an outward symptom of problems created by the march of events, chiefly the 25-year "therapeutic revolution" during which pharmaceutical manufacturers have performed significant roles to the applause of their publics—the doctors, the patients, and the investors.

It is litle wonder, therefore, that the industry suffered a shock when it found itself in the middle of the political stage, forced to play the unfamiliar role of a villain, unloved and misunderstood by the audience, under the cruel and sometimes misleading glare of the publicity spotlight.

Why had the applause, almost overnight, become mixed with hisses and boos? It was inevitable that star performers who had commanded enthusiastic applause for years would sooner or later attract the attention of hostile critics.

Always sensitive to shifts in public sentiment and always on the lookout for potential boxoffice appeal, the politicians produced, directed, and staged a performance for their own benefit. For their plot, they used the efforts of an industry to superimpose a 25-year, miraculous revolution in its products on a business foundation and on industrial thinking largely contructed and developed in the pre-revolution era.

The process of change was underway when the politicians turned on the spotlight. They capitalized on economic and public pressures already at work on a business structure straining to carry the weight of this therapeutic revolution, and on an industry already moving to close the gaps between its products, as modern as tomorrow, and traditional policy concepts, carried over from yesteryear.

The damage has been done, but the industry will outlive the politicians. The most that can be said for them is that they may have speeded the rate of changes already in process.

Emerging New Leadership

What are some of the changes that appear to be in the making?

A new type of industry leadership is in the making, and will emerge as soon as the Kefauver hearings are behind us and the defensive posture is no longer needed to fend off attack. Some industry executives were already looking ahead, even during their darkest days when they had to concentrate on rearguard defenses at Kefauver hearings.

The Kefauver hearings demonstrated that the industry is not a homogenous unit, even though we are inclined to speak of it in the third person singular.

It is a composite of many different companies managed by talented, successful, and tough-minded executives who reflected their own, and their corporate, personalities in their appearances before "that man."

I know that the same can be said for many pharmaceutical executives who did not have the dubious good fortune to be called before Mr. Kefauver.

The top executive talent in the industry will create a leadership base for the solution of industry-wide problems in which everyone has a common interest. This will provide effective industry policy to be carried out by the Pharmaceutical Manufacturers Association, which has been preparing for this job.

Pharmaceutical executives, backed by long hours of cramming and rehearsing, got an intimate feel of Washington and of industry problems from their personal appearances before Kefauver. They now have first-hand knowledge of the full nature of the responsibilities undertaken for the whole industry by Dr. Austin Smith and his PMA staff.

To be effective in this role, Dr. Smith must be supported by a broad leadership made up of individual corporate executives who have developed a facility for merging divergent viewpoints into a unified policy position.

Another thing industry executives have learned from Kefauver is that you can't win 'em all. Sometimes you can count a victory if you're able to keep your losses low. There needs to be widespread understanding of this view at a time when PMA General Counsel John Worley has new regulations and controls coming towards him from right and left.

Along with the development of a leadership base, pharmaceutical executives will acquire political sophistication. This should come in handy during the next four years of "co-existence" with Democrats.

Regardless of party affiliation or personal emotional involvements, it is important to establish and maintain contact with members of Congress who are reasonably certain of coming back again and again and again. One solid contact on Capitol Hill—even if a Democrat—is worth a bushel of hopefuls sitting back home.

Washington newsmen and editors learn to get along with members of both parties because they never know when there will be an upset or a change—like 1948 or 1960.

You'd be surprised to know how sophisticated the politicians themselves are. They know the facts of life. With political sophistication will come the question of lobbying registration. There—I've made that terrible word "lobbying" public.

Promotion Quality and Quantity

An industry-wide public relations policy is also in the offing. In all the millions of words spoken or written about pharmaceutical PR, there has not yet been a definitive statement to break the problem down into its component parts, listing the industry's

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various publics and their special interests or irritations, and suggesting a PR general platform on which the industry as a whole and individual companies can build. I would strongly suspect that PMA's headquarters staff and its PR steering committe are hard at work on that one.

I have saved my comments on pharmaceutical promotion until the last, because I know that is what you are most interested in.

We are engaged in a headlong race toward a day of reckoning on both the quantity and quality—or content, if you please—of pharmaceutical promotion.

The cost of pharmaceutical promotion and distribution is rapidly becoming a factor of increasing importance in the government, professional, and public relations problem currently faced by the industry with regard to the price the consumer must pay for medicine.

Because of the steady stream of conflicting and ever expanding claims for pharmaceutical products with which the busy physician is constantly bombarded, I have the feeling we are on the verge of creating a veritable Tower of Babel confusion in his mind with regard to our therapeutic armamentarium.

Of course, he will continue to use the drug manufacturers' products, despite the confusion caused by claims and promotional methods—or perhaps because of them. The physician may not like these promotional methods and claims, but he can't practice medicine without the products. But a "let-em-eat-cake" attitude toward this primary market cannot continue forever without something popping somewhere.

If the physician is confused by skyrocketing pharmaceutical claims, he will rise up and demand clarification. Inevitably, this involves the evaluation of the comparative efficacy of pharmaceutical products and the accuracy of claims made for them. If the physician feels there is a need for this kind of information, he will get it from one source or another —from the government, from the A.M.A., from medical educators, or even from some private organization set up for the purpose.

Warnings Must Be Included

The FDA's new regulatory approach to medical promotion claims may affect the pharmaceutical industry in much the same way the proprietary drug industry was affected by the enactment of the 1938 Wheeler-Lea Amendment to the Federal Trade Commission Act. FDA does have clear authority over what the layers call "accompanying labeling." With regard to pharmaceuticals, this is considered to include just about any information supplied to the physician on the use of a product.

At the moment, for promotion people, I have two pieces of nonlegal, practical advice which may help to keep them out of trouble with FDA—even if it won't help sell any products:

1. In promotion copy, never go beyond the claims set out for a product in its NDA without first consulting your legal and medical departments. If they tell you to go ahead, it will be up to them to argue it out with FDA.

2. Include all the warnings required by the effective NDA whenever you state the indications and directions for use in any ad or promotion material. If you wish to keep your client or company out of trouble, you must do this, no matter how much the inclusion of warnings against side effects may hurt your literary, artistic, or commercial souls.

And now it is time for me to end my own little promotion game. Every word I have said here on pharmaceutical promotion was taken from a speech delivered Jan. 3, 1957, before the Pharmaceutical Advertising Club of New York City.

PHARMACEUTICALS FOR PLANTS

(*Continued from page 41*)

get a somewhat gloomy financial picture.

Even so, the micro-ingredient market is by no means a wash-out, in the eyes of many industry officials. Something could happen overnight to change the picture radically.

As one executive pointed out, given a new product that could do an effective job at a reasonable cost, the possibilities are fantastic.

Is this all whistling in the dark? Many agricultural experts do not think so. Our expanding world population will require great amounts of food. Furthermore, a goodly percentage of the world's almost three billion people still go to bed hungry, despite food surpluses in some countries.

Especially in the area of increasing fruit and vegetable production, some plant scientists visualize Jules Verne-like potentialities as a result of micro-ingredients. This is true not only of U. S. scientists, but also of Russian experts. U.S.S.R. scientists recently took a fantastic and provocative look into the future in "Russian Science in the 21st Century," published by McGraw-Hill. They suggest that farmers will produce carrots a yard long, cabbages four feet wide, and roses that can bloom for weeks on end.

Much of this, they say, will be accounted for by new micro-ingredient products. "The question of micro-ingredients is now one of the greatest interest and concern to experimental agriculturists. In plant organisms, the part played by micro-ingredients is very much like that played by vitamins and hormones in the human organism."

So, it seems that captialist apples, pears, tomatoes and communist apples, pears, and tomatoes are not saying *Nyet* to pharmaceuticals. The possibility of an expanding micro-ingredient market here in the U. S. is bright, even though the present is as thick

with problems as a psychoanalyst's records. The roots are down. The golden harvest is yet to come.

EUROPEAN RESEARCH

(Continued from page 45)

ical experimental work that he hopes will prove fertile. To reflect and dream, this seems to be one of the prime objectives of the European pharmaceutical researcher. There is evidence that this method is bearing fruit.

There is no question that European pharmaceutical research institutes continue to benefit from American applied research methods, and are adapting them to their own practice. This applies to both animal experiments and clinical pharmacology, and it is generally conceded that these methods have proved helpful. Laboratory equipment made in the United States can be seen in many laboratories, especially in such realms as electrical recording instruments. European equipment manufacturers are, however, developing unique and new apparatus and must be regarded as a future important factor in contributing to this aspect of research.

Probably every pharmacologist has his own ideas as to which is the best method for testing a given group of drugs It would be fine if such methods could be standardized, but that is too much to hope for. The important thing is the desire to develop methods that are reproducible and can be sufficiently standardized and repeated in other laboratories to permit valid deductions. I noticed that one European laboratory insists that animals under observation be kept in cages within the department, so that they are under the constant supervision of the individual carrying out the test. Only after the experiment is completed are the animals returned to general quarters. Some firms seek deliberate confirmation of their pharmacologic studies by independent outside workers associated with universities. This praiseworthy custom is not always followed today by commercial laboratories in this country.

For those who are confronted with the necessity of comparing the effectiveness of various drugs of a similar action with one another, it is always difficult to decide whether the testing methods employed in their evaluation are comparable. Frequently they are not. The problem becomes even more difficult when transferring a new product from one country to another. A drug that has proved effective in the laboratory and useful in clinical practice in one country will not necessarily find favor with the profession of another country. Frequently new comparative data must be obtained with the drugs in vogue in the country in which the product is to be introduced, using methods of evaluation there current. This is the penalty we pay for individualism in teaching, in research, and in medical practice.

There seems to be less tendency abroad for a man-

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ufacturer to make many derivatives of a new chemical agent developed by another manufacturer, in order to find one that is effective in lower dosage or that produces fewer side effects. This may be because such research is considered less interesting abroad or, perhaps, also to a tradition within the pharmaceutical industry not to step into another firm's garden. Manufacturers have also learned that a firm that has carried out research in a given field for a number of years usually acquires special knowledge in that field both from a research and marketing point of view. In addition, if a new therapeutic agent is found in an area previously not amenable to therapy, the originator will usually prepare many hundreds of derivatives himself, to make his patent claims as broad as possible. Unfortunately, the absence of patent protection, as is found in Italy, for example, sometimes vitiates this endeavor.

There is definite progress in Europe in the application of clinical research methods like those that have been developed in the United States. People I talked to recognized a need for the use of improved, controlled testing in clinical experiments, and recently published papers in German medical journals seem to bear this out. This development is important to those firms that wish to market European preparations in the United States, because it facilitates the evaluation of such products for their suitability for the United States market. The art and science of clinical pharmacology of drugs is still in the relatively early stages on the European continent, but we can expect progress and look forward to original contributions in this important area of medical research. Many of the medical directors of European pharmaceutical firms have either visited the United States or have spent some time in our hospitals. It is my impression that the medical departments of pharmaceutical firms in Europe have always had a substantial influence on the clinical evaluation of new products, on the decision as to which preparation to market as well as on how to promote it. Supported by better controlled clinical studies, the scientific side of European firms can be expected to exert a still greater influence, in the future.

Both the scientific and commercial personnel of the larger European firms are well informed on United States drug products. Many subscribe to our market research services. One of the U. S. market research organizations, the Intercontinental Marketing Service, has established European branches which provide data covering sales and prescriptions in Europe. Although in the past individual firms have tried to collect market research information themselves, it is only in recent years that market research, as we know it, has become part of general business operation in Europe.

Although large research libraries are maintained by all drug firms as a matter of course, scientific documentation, with mechanical retrieval and all its many detailed records as practiced in this country, is only now being established and built up. Europe, too, is bewildered by the mass of scientific data that accumulates and must be properly processed. I don't think anybody in Europe has as yet found any worthwhile method for the separation of useful and valid data from those of minor importance which might just as well pass into oblivion. It is not so difficult to handle special projects, but to maintain an over-all picture of pharmaceutical development is by no means easy.

Development research seeking new product formulations has not as yet been given the share in research expenditure in Europe that it has received in this country. Whether this will change in the future it is difficult to say. Those manufacturers who have constant contact with American firms may realize the financial benefits to be derived from improvements in formulations, such as tableting, coating, capsulating, suspensions, the preparation of stable solutions, and others. I noticed, however, that physical chemistry is increasingly involved in chemical manufacturing, as well as in the production of pharmaceuticals. This new research discipline may produce interesting new approaches in the manufacture of drug products.

The German parliament is still discussing a new food and drug law. It is now pretty well established that the regulations of this law will not be as far-reaching as those applying to a new drug application in the United States. The law will demand that in future exact compositions of German products must be given; this will change the labeling of many combination products that did not provide such information in the past.

As to the social aspects of business in Germany, practically all the larger firms run a well-established polyclinic where employees, if they so choose, are treated free of charge apart from the German health insurance panel system. These polyclinics do not merely provide diagnosis and emergency treatment, but also furnish therapy of chronic diseases. The institutions developed are frequently better equipped than local hospitals or the physicians' offices. The problem of competition with the local medical profession has of course arisen, but nobody knows as yet how it can be solved. German manufacturers are also frequently the owners of large pieces of real estate with rooming and apartment houses that are rented to employees. This development is probably an outgrowth of an old feudal system and we might find an analogy in the "company towns" formerly operated, usually by mining and heavy industry, in the United States. But such provision was in many cases made mandatory by the shortage of housing of the postwar period. At that time only factories could obtain the financial backing necessary to construct new accommodations. In increasingly serious labor shortage, the availability of relatively low-cost living quarters is an additional inducement for employees to stay with a given firm.

Government, industry, and commerce in Germany are paying wider attention to providing facilities for apprenticeships. Trade schools are being built everywhere. Manufacturers and trading firms are licensed by the Chamber of Commerce to train young men in their various trades. The time spent in training is usually three years. During this period the young men are employed in various departments of the establishment, usually starting in the warehouse and ending up in the bookkeeping department. They must also attend weekly lectures arranged for by the Chamber of Commerce and given by industry executives. At the end of three years, oral and written examinations must be passed and are duly honored by a suitable certificate. This type of training offers young men the security of basic knowledge in their chosen trade and is very helpful to them as a guarantee of future employment and security.

During my brief trip to the European Continent, I gained an impression of a tremendous drive to improve research and production facilities for an expansion of business. The European Common Market and the market of the six outer countries will permit many firms to operate on a much broader basis than they have been able to do in the past. This will strengthen their financial position and enable them to meet United States competition more effectively, at home or abroad. The only drawback still existing is the absence of a uniform drug law applicable to the various European countries.

There is a desire to cooperate with American firms through an exchange of products, but this has not proved successful and satisfactory in all instances. There have been disappointments, but perhaps a more careful selection of products to be marketed in a given country and a better selection of firms who may produce and sell such products will in the future remedy this situation and bring about more fruitful cooperation between American and European pharmaceutical firms.

Traditions, customs, and talents differ from one country to another, and we must try to determine what is useful and practical in each and, where possible, adapt it to our own operation. No individual or group of individuals can claim to have the answer to every research problem. Pharmaceutical research in the United States, which is still relatively young, could be expected to travel new and unknown paths; it has done this with eminent success. With a somewhat different approach, European research workers have been successful, too. I believe that everybody will benefit from an appreciation of the contributions made by each group. As in every scientific field, further world-wide progress in pharmaceutical research depends largely on the discovery of new basic knowledge which lends itself to applied product research. Whoever is fortunate enough to succeed in doing pioneer work in a therapeutic field can expect the greatest rewards. ●

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